

pha4262.ST25.txt
SEQUENCE LISTING

<110> Pharmacia Corporation

Stephenson, Diane T

Taylor, Duncan P

<120> Compositions of a Cyclooxygenase-2 Selective Inhibitor and a Calcium
Modulating Agent for the Treatment of Pain, Inflammation or Inflammation Mediated
Disorders

<130> PHA 42624.1

<150> US 60/464,609

<151> 2003-04-22

<160> 26

<170> PatentIn version 3.1

<210> 1

<211> 1873

<212> PRT

<213> Homo sapiens

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35 40 45

Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn
50 55 60

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Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn
65 70 75 80

Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val
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Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe
100 105 110

His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr
115 120 125

Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val
130 135 140

Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp
145 150 155 160

Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val
165 170 175

Ser Gly Val Pro Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala
180 185 190

Met Leu Pro Leu Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile
195 200 205

Ile Tyr Ala Ile Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys
210 215 220

Thr Cys Tyr Phe Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu
225 230 235 240

Glu Pro Ser Pro Cys Ala Arg Thr Gly Ser Gly Arg Arg Cys Thr Ile
245 250 255

Asn Gly Ser Glu Cys Arg Gly Gly Trp Pro Gly Pro Asn His Gly Ile
260 265 270

Thr His Phe Asp Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys
275 280 285

Ile Thr Met Glu Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala
290 295 300

Ile Gly Asn Glu Trp Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu
305 310 315 320

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Gly Ser Phe Phe Ile Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu
325 330 335

Phe Thr Lys Glu Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys
340 345 350

Leu Arg Glu Lys Gln Gln Leu Asp Glu Asp Leu Arg Gly Tyr Met Ser
355 360 365

Trp Ile Thr Gln Gly Glu Val Met Asp Val Glu Asp Phe Arg Glu Gly
370 375 380

Lys Leu Ser Leu Asp Glu Gly Gly Ser Asp Thr Glu Ser Leu Tyr Glu
385 390 395 400

Ile Ala Gly Leu Asn Lys Ile Ile Gln Phe Ile Arg His Trp Arg Gln
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Trp Asn Arg Ile Phe Arg Trp Lys Cys His Asp Ile Val Lys Ser Lys
420 425 430

Val Phe Tyr Trp Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser
435 440 445

Ile Ala Ser Glu His His Asn Gln Pro Leu Trp Leu Thr Arg Leu Gln
450 455 460

Asp Ile Ala Asn Arg Val Leu Leu Ser Leu Phe Thr Thr Glu Met Leu
465 470 475 480

Met Lys Met Tyr Gly Leu Gly Leu Arg Gln Tyr Phe Met Ser Ile Phe
485 490 495

Asn Arg Phe Asp Cys Phe Val Val Cys Ser Gly Ile Leu Glu Ile Leu
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Leu Val Glu Ser Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg
515 520 525

Cys Ile Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Thr Ser
530 535 540

Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala
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Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Val Ile Phe Ala Leu Leu

Gly Met Gln Leu Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val
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Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe
595 600 605

Gln Val Leu Thr Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile
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Met Ala Tyr Gly Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr
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Leu Ala Ile Ala Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser
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Ala Gln Lys Ala Lys Ala Glu Glu Lys Lys Arg Arg Lys Met Ser Lys
675 680 685

Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys
690 695 700

Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu
705 710 715 720

Lys Ile Asp Glu Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr
725 730 735

Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile
740 745 750

Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu
755 760 765

Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro
770 775 780

Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp
785 790 795 800

Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu
805 810 815

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Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu
820 825 830

Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val
835 840 845

Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys
850 855 860

Arg Asn Tyr Phe Asn Met Leu Asp Leu Leu Val Val Ala Val Ser Leu
865 870 875 880

Ile Ser Met Gly Leu Glu Ser Ser Ala Ile Ser Val Val Lys Ile Leu
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915 920 925

Gly Asn Ile Val Leu Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys
930 935 940

Ile Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu
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Ser Lys Met Thr Glu Glu Glu Cys Arg Gly Tyr Tyr Tyr Val Tyr Lys
965 970 975

Asp Gly Asp Pro Met Gln Ile Glu Leu Arg His Arg Glu Trp Val His
980 985 990

Ser Asp Phe His Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe
995 1000 1005

Thr Val Ser Thr Phe Glu Gly Trp Pro Gln Leu Leu Tyr Lys Ala
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Ile Asp Ser Asn Ala Glu Asp Val Gly Pro Ile Tyr Asn Asn Arg
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Val Glu Met Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala
1040 1045 1050

Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe
1055 1060 1065

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Gln Glu 1070 Gln Gly Glu Thr Glu 1075 Tyr Lys Asn Cys Glu 1080 Leu Asp Lys

Asn Gln 1085 Arg Gln Cys Val Glu 1090 Tyr Ala Leu Lys Ala 1095 Arg Pro Leu

Arg Cys 1100 Tyr Ile Pro Lys Asn 1105 Pro Tyr Gln Tyr Glu 1110 Val Trp Tyr

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Met Leu 1130 Asn Thr Ile Cys Leu 1135 Gly Met Gln His Tyr 1140 Asn Gln Ser

Glu Gln 1145 Met Asn His Ile Ser 1150 Asp Ile Leu Asn Val 1155 Ala Phe Thr

Ile Ile 1160 Phe Thr Leu Glu Met 1165 Ile Leu Lys Leu Met 1170 Ala Phe Lys

Ala Arg 1175 Gly Tyr Phe Gly Asp 1180 Pro Trp Asn Val Phe 1185 Asp Phe Leu

Ile Val 1190 Ile Gly Ser Ile Ile 1195 Asp Val Ile Leu Ser 1200 Glu Ile Asp

Thr Phe 1205 Leu Ala Ser Ser Gly 1210 Gly Leu Tyr Cys Leu 1215 Gly Gly Gly

Cys Gly 1220 Asn Val Asp Pro Asp 1225 Glu Ser Ala Arg Ile 1230 Ser Ser Ala

Phe Phe 1235 Arg Leu Phe Arg Val 1240 Met Arg Leu Ile Lys 1245 Leu Leu Ser

Arg Ala 1250 Glu Gly Val Arg Thr 1255 Leu Leu Trp Thr Phe 1260 Ile Lys Ser

Phe Gln 1265 Ala Leu Pro Tyr Val 1270 Ala Leu Leu Ile Val 1275 Met Leu Phe

Phe Ile 1280 Tyr Ala Val Ile Gly 1285 Met Gln Met Phe Gly 1290 Lys Ile Ala

Leu Val 1295 Asp Gly Thr Gln Ile 1300 Asn Arg Asn Asn Asn 1305 Phe Gln Thr

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Phe	Asp	Tyr	Leu	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His
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Lys	Gly	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg
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	1490					1495					1500			
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Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Glu	Asp	Phe
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1535

1540

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Ala	Tyr	Gly	Asn	Ser	Asn	His	Ser	Asn	Ser	His	Val	Phe	Ser	Ser
	1670					1675					1680			
Val	His	Tyr	Glu	Arg	Glu	Phe	Pro	Glu	Glu	Thr	Glu	Thr	Pro	Ala
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	1730					1735					1740			
Pro	Arg	Val	Glu	Ser	Ser	Met	Pro	Glu	Asp	Arg	Lys	Ser	Ser	Thr
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Glu Asn Thr Ser Arg Cys Ser Ala Pro Ala Thr Ala Leu Leu Ile
1775 1780 1785

Gln Lys Ala Leu Val Arg Gly Gly Leu Gly Thr Leu Ala Ala Asp
1790 1795 1800

Ala Asn Phe Ile Met Ala Thr Gly Gln Ala Leu Gly Asp Ala Cys
1805 1810 1815

Gln Met Glu Pro Glu Glu Val Glu Ile Met Ala Thr Glu Leu Leu
1820 1825 1830

Lys Gly Arg Glu Ala Pro Glu Gly Met Ala Ser Ser Leu Gly Cys
1835 1840 1845

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<211> 1873

<212> PRT

<213> Homo sapiens

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35 40 45

Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn
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Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn
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Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val
85 90 95

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Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe
100 105 110

His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr
115 120 125

Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val
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Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp
145 150 155 160

Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val
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Ser Gly Val Pro Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala
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Met Leu Pro Leu Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile
195 200 205

Ile Tyr Ala Ile Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys
210 215 220

Thr Cys Tyr Phe Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu
225 230 235 240

Glu Pro Ser Pro Cys Ala Arg Thr Gly Ser Gly Arg Arg Cys Thr Ile
245 250 255

Asn Gly Ser Glu Cys Arg Gly Gly Cys Pro Gly Pro Asn His Gly Ile
260 265 270

Thr His Phe Asp Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys
275 280 285

Ile Thr Met Glu Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala
290 295 300

Ile Gly Asn Glu Trp Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu
305 310 315 320

Gly Ser Phe Phe Ile Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu
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Phe Thr Lys Glu Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys
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 Trp Ile Thr Gln Gly Glu Val Met Asp Val Glu Asp Phe Arg Glu Gly
 370 375 380
 Lys Leu Ser Leu Asp Glu Gly Gly Ser Asp Thr Glu Ser Leu Tyr Glu
 385 390 395 400
 Ile Ala Gly Leu Asn Lys Ile Ile Gln Phe Ile Arg His Trp Arg Gln
 405 410 415
 Trp Asn Arg Ile Phe Arg Trp Lys Cys His Asp Ile Val Lys Ser Lys
 420 425 430
 Val Phe Tyr Trp Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser
 435 440 445
 Ile Ala Ser Glu His His Asn Gln Pro His Trp Leu Thr Arg Leu Gln
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 Asp Ile Ala Asn Arg Val Leu Leu Ser Leu Phe Thr Thr Glu Met Leu
 465 470 475 480
 Met Lys Met Tyr Gly Leu Gly Leu Arg Gln Tyr Phe Met Ser Ile Phe
 485 490 495
 Asn Arg Phe Asp Cys Phe Val Val Cys Ser Gly Ile Leu Glu Ile Leu
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 Leu Val Glu Ser Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg
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 Cys Ile Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Thr Ser
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 Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala
 545 550 555 560
 Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Val Ile Phe Arg Leu Leu
 565 570 575
 Gly Met Gln Leu Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val
 580 585 590
 Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe
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595

600

Gln Val Leu Thr Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile
610 615 620

Met Ala Ser Ser Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr
625 630 635 640

Phe Ile Ile Leu Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe
645 650 655

Leu Ala Ile Ala Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser
660 665 670

Ala Gln Lys Ala Lys Ala Glu Glu Lys Lys Arg Arg Lys Met Ser Lys
675 680 685

Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys
690 695 700

Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu
705 710 715 720

Lys Ile Asp Glu Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr
725 730 735

Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile
740 745 750

Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu
755 760 765

Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro
770 775 780

Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp
785 790 795 800

Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu
805 810 815

Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu
820 825 830

Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val
835 840 845

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Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys
850 855 860

Arg Asn Tyr Phe Asn Met Leu Asp Leu Leu Val Val Ala Val Ser Leu
865 870 875 880

Ile Ser Met Gly Leu Glu Ser Ser Ala Ile Ser Val Val Lys Ile Leu
885 890 895

Arg Val Leu Arg Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys
900 905 910

Gly Leu Lys His Val Ala Arg Cys Met Phe Val Ala Ile Ser Thr Ile
915 920 925

Gly Asn Ile Val Leu Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys
930 935 940

Ile Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu
945 950 955 960

Ser Lys Met Thr Glu Glu Glu Cys Arg Gly Tyr Tyr Tyr Val Tyr Lys
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Asp Gly Asp Pro Met Gln Ile Glu Leu Arg His Arg Glu Trp Val His
980 985 990

Ser Asp Phe His Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe
995 1000 1005

Thr Val Ser Thr Phe Glu Gly Trp Pro Gln Leu Leu Tyr Lys Ala
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Ile Asp Ser Asn Ala Glu Asp Val Gly Pro Ile Tyr Asn Asn Arg
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Val Glu Met Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala
1040 1045 1050

Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe
1055 1060 1065

Gln Glu Gln Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys
1070 1075 1080

Asn Gln Arg Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu
1085 1090 1095

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Met	Leu 1130	Asn	Thr	Ile	Cys	Leu 1135	Gly	Met	Gln	His	Tyr 1140	Asn	Gln	Ser
Glu	Gln 1145	Met	Asn	His	Ile	Ser 1150	Asp	Ile	Leu	Asn	Val 1155	Ala	Phe	Thr
Ile	Ile 1160	Phe	Thr	Leu	Glu	Met 1165	Ile	Leu	Lys	Leu	Met 1170	Ala	Phe	Lys
Ala	Arg 1175	Gly	Tyr	Phe	Gly	Asn 1180	Pro	Trp	Asn	Val	Phe 1185	Asp	Phe	Leu
Ile	Val 1190	Ile	Gly	Ser	Ile	Ile 1195	Asp	Val	Ile	Leu	Ser 1200	Glu	Ile	Asp
Thr	Phe 1205	Leu	Ala	Ser	Ser	Gly 1210	Gly	Leu	Tyr	Cys	Leu 1215	Gly	Gly	Gly
Cys	Gly 1220	Asn	Val	Asp	Pro	Asp 1225	Glu	Ser	Ala	Arg	Ile 1230	Ser	Ser	Ala
Phe	Phe 1235	Arg	Leu	Phe	Arg	Val 1240	Met	Arg	Leu	Ile	Lys 1245	Leu	Leu	Ser
Arg	Ala 1250	Glu	Gly	Val	Arg	Thr 1255	Leu	Leu	Trp	Thr	Phe 1260	Ile	Lys	Ser
Phe	Gln 1265	Ala	Leu	Pro	Tyr	Val 1270	Ala	Leu	Leu	Ile	Val 1275	Met	Leu	Phe
Phe	Ile 1280	Tyr	Ala	Val	Ile	Gly 1285	Met	Gln	Met	Phe	Gly 1290	Lys	Ile	Ala
Leu	Val 1295	Asp	Gly	Thr	Gln	Ile 1300	Asn	Arg	Asn	Asn	Asn 1305	Phe	Gln	Thr
Phe	Pro 1310	Gln	Ala	Val	Leu	Leu 1315	Leu	Phe	Arg	Cys	Ala 1320	Thr	Gly	Glu
Ala	Trp 1325	Gln	Glu	Ile	Leu	Leu 1330	Ala	Cys	Ser	Tyr	Gly 1335	Lys	Leu	Cys

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Thr	Asn	Phe	Ala	Tyr	Tyr	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys
1355						1360					1365			
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Lys	Gly	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg
1415						1420					1425			
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1430						1435					1440			
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1445						1450					1455			
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1475						1480					1485			
Glu	Leu	Arg	Ala	Ile	Ile	Lys	Lys	Ile	Trp	Lys	Arg	Thr	Ser	Met
1490						1495					1500			
Lys	Leu	Leu	Asp	Gln	Val	Ile	Pro	Pro	Ile	Gly	Asp	Asp	Glu	Val
1505						1510					1515			
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1520						1525					1530			
Arg	Lys	Phe	Met	Lys	Arg	Gln	Glu	Glu	Tyr	Tyr	Gly	Tyr	Arg	Pro
1535						1540					1545			
Lys	Lys	Asp	Ile	Val	Gln	Ile	Gln	Ala	Gly	Leu	Arg	Thr	Ile	Glu
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Asp Asn Phe Leu Glu Arg Thr Asn Ser Leu Pro Pro Val Met Ala	1610	1620
Asn Gln Arg Pro Leu Gln Phe Ala Glu Ile Glu Met Glu Glu Met	1625	1635
Glu Ser Pro Val Phe Leu Glu Asp Phe Pro Gln Asp Pro Arg Thr	1640	1650
Asn Pro Leu Ala Arg Ala Asn Thr Asn Asn Ala Asn Ala Asn Val	1655	1665
Ala Tyr Ala Asn Ser Asn His Ser Asn Ser His Val Phe Ser Ser	1670	1680
Val His Tyr Glu Arg Glu Phe Pro Glu Glu Thr Glu Thr Pro Ala	1685	1695
Thr Arg Gly Arg Ala Leu Gly Gln Pro Cys Arg Ser Leu Gly Pro	1700	1710
His Ser Lys Pro Cys Val Glu Met Leu Lys Gly Leu Leu Thr Gln	1715	1725
Arg Ala Met Pro Arg Gly Gln Ala Pro Pro Ala Pro Cys Gln Cys	1730	1740
Pro Arg Val Glu Ser Ser Met Pro Glu Asp Arg Lys Ser Ser Thr	1745	1755
Pro Gly Ser Leu His Glu Glu Thr Pro His Ser Arg Ser Thr Arg	1760	1770
Glu Asn Thr Ser Arg Cys Ser Ala Pro Ala Thr Ala Leu Leu Ile	1775	1785
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1820 1825 1830

Lys Gly Arg Glu Ala Pro Asp Gly Met Ala Ser Ser Leu Gly Cys
1835 1840 1845

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1865 1870

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<213> Homo sapiens

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Ala Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys Leu
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Met Gly Ser Ala Gly Asn Ala Thr Ile Ser Thr Val Ser Ser Thr Gln
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Arg Lys Arg Gln Gln Tyr Gly Lys Pro Lys Lys Gln Gly Ser Thr Thr
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Ala Thr Arg Pro Pro Arg Ala Leu Leu Cys Leu Thr Leu Lys Asn Pro
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Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Glu Ile
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Ile Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Ala Ile Tyr
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Ile Pro Phe Pro Glu Asp Asp Ser Asn Ala Thr Asn Ser Asn Leu Glu
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Arg Val Glu Tyr Leu Phe Leu Ile Ile Phe Thr Val Glu Ala Phe Leu
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Lys Val Ile Ala Tyr Gly Leu Leu Phe His Pro Asn Ala Tyr Leu Arg
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Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
195 200 205

Ser Ala Ile Leu Glu Gln Ala Thr Lys Ala Asp Gly Ala Asn Ala Leu
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Gly Gly Lys Gly Ala Gly Phe Asp Val Lys Ala Leu Arg Ala Phe Arg
225 230 235 240

Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu Gln Val
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Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu His Ile Ala
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Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu Glu
275 280 285

Leu Phe Met Gly Lys Met His Lys Thr Cys Tyr Asn Gln Glu Gly Ile
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Ala Asp Val Pro Ala Glu Asp Asp Pro Ser Pro Cys Ala Leu Glu Thr
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Gly His Gly Arg Gln Cys Gln Asn Gly Thr Val Cys Lys Pro Gly Trp
325 330 335

Asp Gly Pro Lys His Gly Ile Thr Asn Phe Asp Asn Phe Ala Phe Ala
340 345 350

Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp Val
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Asp Leu Lys Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Asp Ile Asp
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Pro Glu Asn Glu Asp Glu Gly Met Asp Glu Glu Lys Pro Arg Asn Met
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Cys Arg Arg Lys Cys Arg Ala Ala Val Lys Ser Asn Val Phe Tyr Trp
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Leu Val Ile Phe Leu Val Phe Leu Asn Thr Leu Thr Ile Ala Ser Glu
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His Tyr Asn Gln Pro Asn Trp Leu Thr Glu Val Gln Asp Thr Ala Asn
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Lys Ala Leu Leu Ala Leu Phe Thr Ala Glu Met Leu Leu Lys Met Tyr
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Ser Leu Gly Leu Gln Ala Tyr Phe Val Ser Leu Phe Asn Arg Phe Asp
580 585 590

Cys Phe Val Val Cys Gly Gly Ile Leu Glu Thr Ile Leu Val Glu Thr
595 600 605

Lys Ile Met Ser Pro Leu Gly Ile Ser Val Leu Arg Cys Val Arg Leu
610 615 620

Leu Arg Ile Phe Lys Ile Thr Arg Tyr Trp Asn Ser Leu Ser Asn Leu
Page 19

625		630		635		640
Val	Ala	Ser	Leu	Leu	Asn	Ser
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				650		Ala
						Ser
						Leu
						Leu
						655
Leu	Leu	Phe	Leu	Phe	Ile	Ile
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						Gly
						Met
						Gln
						Leu
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						Thr
						Val
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						Ile
						Leu
						Thr
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						Tyr
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						Leu
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						Asn
						Val
						Phe
						Leu
						Ala
						Ile
						Ala
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						Thr
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						Ala
						Gln
						Lys
						Glu
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						Lys
						Leu
						Ala
						Arg
						780
						Thr
						Ala
						Ser
						Pro
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						Pro
						Ala
						795
						Val
						Gly
						Glu
						Ser
						Lys
						800
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						Ile
						Thr
						Ala
						Asp
						Gly
						Glu
						Ser
						815
						Pro
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						825
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						Glu
						Ala
						Ser
						Ala
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Arg Cys Ala Thr Gly Glu Ala Trp Gln Asp Ile Met Leu Ala Cys
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1595

1600

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<212> PRT

<213> Homo sapiens

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Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn
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Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe
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Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg
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Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu
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His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile
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Gly Leu Glu Leu Phe Ile Gly Lys Met His Lys Thr Cys Phe Phe Ala
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295

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Gly Asn Gly Arg Gln Cys Thr Ala Asn Gly Thr Glu Cys Arg Ser Gly
325 330 335

Trp Val Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Ala Phe
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Ala Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp
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Val Leu Tyr Trp Met Asn Asp Ala Met Gly Phe Glu Leu Pro Trp Val
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Tyr Phe Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu
385 390 395 400

Val Leu Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala
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Lys Ala Arg Gly Asp Phe Gln Lys Leu Arg Glu Lys Gln Gln Leu Glu
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Glu Asp Leu Lys Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Asp Ile
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Asp Pro Glu Asn Glu Glu Glu Gly Gly Glu Glu Gly Lys Arg Asn Thr
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Val Ile Val Leu Val Phe Leu Asn Thr Leu Thr Ile Ser Ser Glu His
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755 760 765

Ala Glu Glu Lys Glu Arg Lys Lys Ile Ala Arg Lys Glu Ser Leu Glu
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Asn Lys Lys Asn Asn Lys Pro Glu Val Asn Gln Ile Ala Asn Ser Asp
785 790 795 800

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 835 840 845
 Ser Glu Leu Asn Met Lys Glu Lys Ile Ala Pro Ile Pro Glu Gly Ser
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 Lys Leu Ile Asn His His Ile Phe Thr Asn Leu Ile Leu Val Phe Ile
 885 890 895
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 Ser Phe Arg Asn Thr Ile Leu Gly Tyr Phe Asp Tyr Ala Phe Thr Ala
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Asn	Gly	Glu	Asn	Ile	Gly	Pro	Ile	Tyr	Asn	His	Arg	Val	Glu	Ile
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Ser	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Ile	Val	Ala	Phe	Phe	Met
	1130					1135					1140			
Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe	Gln	Glu	Gln
	1145					1150					1155			
Gly	Glu	Lys	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys	Asn	Gln	Arg
	1160					1165					1170			
Gln	Cys	Val	Glu	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu	Arg	Arg	Tyr
	1175					1180					1185			
Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Lys	Phe	Trp	Tyr	Val	Val	Asn
	1190					1195					1200			
Ser	Ser	Pro	Phe	Glu	Tyr	Met	Met	Phe	Val	Leu	Ile	Met	Leu	Asn
	1205					1210					1215			
Thr	Leu	Cys	Leu	Ala	Met	Gln	His	Tyr	Glu	Gln	Ser	Lys	Met	Phe
	1220					1225					1230			
Asn	Asp	Ala	Met	Asp	Ile	Leu	Asn	Met	Val	Phe	Thr	Gly	Val	Phe
	1235					1240					1245			
Thr	Val	Glu	Met	Val	Leu	Lys	Val	Ile	Ala	Phe	Lys	Pro	Lys	Gly
	1250					1255					1260			
Tyr	Phe	Ser	Asp	Ala	Trp	Asn	Thr	Phe	Asp	Ser	Leu	Ile	Val	Ile
	1265					1270					1275			
Gly	Ser	Ile	Ile	Asp	Val	Ala	Leu	Ser	Glu	Ala	Asp	Pro	Thr	Glu

1280		1285	
Ser Glu 1295	Asn Val Pro Val	Pro 1300	Thr Ala Thr Pro Gly 1305
Glu Ser 1310	Asn Arg Ile Ser	Ile 1315	Thr Phe Phe Arg Leu 1320
Met Arg 1325	Leu Val Lys Leu	Leu 1330	Ser Arg Gly Glu Gly 1335
Leu Leu 1340	Trp Thr Phe Ile	Lys 1345	Phe Phe Gln Ala Leu 1350
Ala Leu 1355	Leu Ile Ala Met	Leu 1360	Phe Phe Ile Tyr Ala 1365
Met Gln 1370	Met Phe Gly Lys	Val 1375	Ala Met Arg Asp Asn 1380
Asn Arg 1385	Asn Asn Asn Phe	Gln 1390	Thr Phe Pro Gln Ala 1395
Leu Phe 1400	Arg Cys Ala Thr	Gly 1405	Glu Ala Trp Gln Glu 1410
Ala Cys 1415	Leu Pro Gly Lys	Leu 1420	Cys Asp Pro Glu Ser 1425
Pro Gly 1430	Glu Glu His Thr	Cys 1435	Gly Ser Asn Phe Ala 1440
Phe Ile 1445	Ser Phe Tyr Met	Leu 1450	Cys Ala Phe Leu Ile 1455
Phe Val 1460	Ala Val Ile Met	Asp 1465	Asn Phe Asp Tyr Leu 1470
Trp Ser 1475	Ile Leu Gly Pro	His 1480	His Leu Asp Glu Phe 1485
Trp Ser 1490	Glu Tyr Asp Pro	Glu 1495	Ala Lys Gly Arg Ile 1500
Asp Val 1505	Val Thr Leu Leu	Arg 1510	Arg Ile Gln Pro Pro 1515

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Gly	Lys	Leu	Cys	Pro	His	Arg	Val	Ala	Cys	Lys	Arg	Leu	Val	Ala
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Met	Asn	Met	Pro	Leu	Asn	Ser	Asp	Gly	Thr	Val	Met	Phe	Asn	Ala
1535						1540					1545			
Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr	Ala	Leu	Lys	Ile	Lys	Thr	Glu
1550						1555					1560			
Gly	Asn	Leu	Glu	Gln	Ala	Asn	Glu	Glu	Leu	Arg	Ala	Val	Ile	Lys
1565						1570					1575			
Lys	Ile	Trp	Lys	Lys	Thr	Ser	Met	Lys	Leu	Leu	Asp	Gln	Val	Val
1580						1585					1590			
Pro	Pro	Ala	Gly	Asp	Asp	Glu	Val	Thr	Val	Gly	Lys	Phe	Tyr	Ala
1595						1600					1605			
Thr	Phe	Leu	Ile	Gln	Asp	Tyr	Phe	Arg	Lys	Phe	Lys	Lys	Arg	Lys
1610						1615					1620			
Glu	Gln	Gly	Leu	Val	Gly	Lys	Tyr	Pro	Ala	Lys	Asn	Thr	Thr	Ile
1625						1630					1635			
Ala	Leu	Gln	Ala	Gly	Leu	Arg	Thr	Leu	His	Asp	Ile	Gly	Pro	Glu
1640						1645					1650			
Ile	Arg	Arg	Ala	Ile	Ser	Cys	Asp	Leu	Gln	Asp	Asp	Glu	Pro	Glu
1655						1660					1665			
Glu	Thr	Lys	Arg	Glu	Glu	Glu	Asp	Asp	Val	Phe	Lys	Arg	Asn	Gly
1670						1675					1680			
Ala	Leu	Leu	Gly	Asn	His	Val	Asn	His	Val	Asn	Ser	Asp	Arg	Arg
1685						1690					1695			
Asp	Ser	Leu	Gln	Gln	Thr	Asn	Thr	Thr	His	Arg	Pro	Leu	His	Val
1700						1705					1710			
Gln	Arg	Pro	Ser	Ile	Pro	Pro	Ala	Ser	Asp	Thr	Glu	Lys	Pro	Leu
1715						1720					1725			
Phe	Pro	Pro	Ala	Gly	Asn	Ser	Val	Cys	His	Asn	His	His	Asn	His
1730						1735					1740			
Asn	Ser	Ile	Gly	Lys	Gln	Val	Pro	Thr	Ser	Thr	Asn	Ala	Asn	Leu
1745						1750					1755			

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Asn	Asn	Ala	Asn	Met	Ser	Lys	Ala	Ala	His	Gly	Lys	Arg	Pro	Ser
	1760					1765					1770			
Ile	Gly	Asn	Leu	Glu	His	Val	Ser	Glu	Asn	Gly	His	His	Ser	Ser
	1775					1780					1785			
His	Lys	His	Asp	Arg	Glu	Pro	Gln	Arg	Arg	Ser	Ser	Val	Lys	Arg
	1790					1795					1800			
Thr	Arg	Tyr	Tyr	Glu	Thr	Tyr	Ile	Arg	Ser	Asp	Ser	Gly	Asp	Glu
	1805					1810					1815			
Gln	Leu	Pro	Thr	Ile	Cys	Arg	Glu	Asp	Pro	Glu	Ile	His	Gly	Tyr
	1820					1825					1830			
Phe	Arg	Asp	Pro	His	Cys	Leu	Gly	Glu	Gln	Glu	Tyr	Phe	Ser	Ser
	1835					1840					1845			
Glu	Glu	Cys	Tyr	Glu	Asp	Asp	Ser	Ser	Pro	Thr	Trp	Ser	Arg	Gln
	1850					1855					1860			
Asn	Tyr	Gly	Tyr	Tyr	Ser	Arg	Tyr	Pro	Gly	Arg	Asn	Ile	Asp	Ser
	1865					1870					1875			
Glu	Arg	Pro	Arg	Gly	Tyr	His	His	Pro	Gln	Gly	Phe	Leu	Glu	Asp
	1880					1885					1890			
Asp	Asp	Ser	Pro	Val	Cys	Tyr	Asp	Ser	Arg	Arg	Ser	Pro	Arg	Arg
	1895					1900					1905			
Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Ser	His	Arg	Arg	Ser	Ser	Phe
	1910					1915					1920			
Asn	Phe	Glu	Cys	Leu	Arg	Arg	Gln	Ser	Ser	Gln	Glu	Glu	Val	Pro
	1925					1930					1935			
Ser	Ser	Pro	Ile	Phe	Pro	His	Arg	Thr	Ala	Leu	Pro	Leu	His	Leu
	1940					1945					1950			
Met	Gln	Gln	Gln	Ile	Met	Ala	Val	Ala	Gly	Leu	Asp	Ser	Ser	Lys
	1955					1960					1965			
Ala	Gln	Lys	Tyr	Ser	Pro	Ser	His	Ser	Thr	Arg	Ser	Trp	Ala	Thr
	1970					1975					1980			
Pro	Pro	Ala	Thr	Pro	Pro	Tyr	Arg	Asp	Trp	Thr	Pro	Cys	Tyr	Thr
	1985					1990					1995			

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Pro Leu Ile Gln Val Glu Gln Ser Glu Ala Leu Asp Gln Val Asn
2000 2005 2010

Gly Ser Leu Pro Ser Leu His Arg Ser Ser Trp Tyr Thr Asp Glu
2015 2020 2025

Pro Asp Ile Ser Tyr Arg Thr Phe Thr Pro Ala Ser Leu Thr Val
2030 2035 2040

Pro Ser Ser Phe Arg Asn Lys Asn Ser Asp Lys Gln Arg Ser Ala
2045 2050 2055

Asp Ser Leu Val Glu Ala Val Leu Ile Ser Glu Gly Leu Gly Arg
2060 2065 2070

Tyr Ala Arg Asp Pro Lys Phe Val Ser Ala Thr Lys His Glu Ile
2075 2080 2085

Ala Asp Ala Cys Asp Leu Thr Ile Asp Glu Met Glu Ser Ala Ala
2090 2095 2100

Ser Thr Leu Leu Asn Gly Asn Val Arg Pro Arg Ala Asn Gly Asp
2105 2110 2115

Val Gly Pro Leu Ser His Arg Gln Asp Tyr Glu Leu Gln Asp Phe
2120 2125 2130

Gly Pro Gly Tyr Ser Asp Glu Glu Pro Asp Pro Gly Arg Asp Glu
2135 2140 2145

Glu Asp Leu Ala Asp Glu Met Ile Cys Ile Thr Thr Leu
2150 2155 2160

<210> 5

<211> 1966

<212> PRT

<213> Homo sapiens

<400> 5

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Ala Asn Gly Ala Gly Pro Gly Pro Glu Trp Gly Leu Cys Pro Gly Pro
Page 35

20

25

30

Pro Ala Val Glu Gly Glu Ser Ser Gly Ala Ser Gly Leu Gly Thr Pro
 35 40 45

Lys Arg Arg Asn Gln His Ser Lys His Lys Thr Val Ala Val Ala Ser
 50 55 60

Ala Gln Arg Ser Pro Arg Ala Leu Phe Cys Leu Thr Leu Ala Asn Pro
 65 70 75 80

Leu Arg Arg Ser Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Asp Ile
 85 90 95

Leu Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Gly Val Tyr
 100 105 110

Ile Pro Phe Pro Glu Asp Asp Ser Asn Thr Ala Asn His Asn Leu Glu
 115 120 125

Gln Val Glu Tyr Val Phe Leu Val Ile Phe Thr Val Glu Thr Val Leu
 130 135 140

Lys Ile Val Ala Tyr Gly Leu Val Leu His Pro Ser Ala Tyr Ile Arg
 145 150 155 160

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
 165 170 175

Ser Val Leu Leu Glu Gln Gly Pro Gly Arg Pro Gly Asp Ala Pro His
 180 185 190

Thr Gly Gly Lys Pro Gly Gly Phe Asp Val Lys Ala Leu Arg Ala Phe
 195 200 205

Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu His
 210 215 220

Ile Val Leu Asn Ser Ile Met Lys Ala Leu Val Pro Leu Leu His Ile
 225 230 235 240

Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu
 245 250 255

Glu Leu Phe Leu Gly Arg Met His Lys Thr Cys Tyr Phe Leu Gly Ser
 260 265 270

Asp Met Glu Ala Glu Glu Asp Pro Ser Pro Cys Ala Ser Ser Gly Ser
 275 280 285
 Gly Arg Ala Cys Thr Leu Asn Gln Thr Glu Cys Arg Gly Arg Trp Pro
 290 295 300
 Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Phe Phe Ala Met
 305 310 315 320
 Leu Thr Val Phe Gln Cys Val Thr Met Glu Gly Trp Thr Asp Val Leu
 325 330 335
 Tyr Trp Met Gln Asp Ala Met Gly Tyr Glu Leu Pro Trp Val Tyr Phe
 340 345 350
 Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu Val Leu
 355 360 365
 Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys Ala
 370 375 380
 Arg Gly Asp Phe Gln Lys Gln Arg Glu Lys Gln Gln Met Glu Glu Asp
 385 390 395 400
 Leu Arg Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Glu Leu Asp Met
 405 410 415
 Glu Asp Pro Ser Ala Asp Asp Asn Leu Gly Pro Gln Leu Ala Glu Leu
 420 425 430
 Thr Asn Arg Arg Arg Gly Arg Leu Arg Trp Phe Ser His Ser Thr Arg
 435 440 445
 Ser Thr His Ser Thr Ser Ser His Ala Ser Leu Pro Ala Ser Asp Thr
 450 455 460
 Gly Ser Met Thr Glu Thr Gln Gly Asp Glu Asp Glu Glu Glu Gly Ala
 465 470 475 480
 Leu Ala Ser Cys Thr Arg Cys Leu Asn Lys Ile Met Lys Thr Arg Val
 485 490 495
 Cys Arg Arg Leu Arg Arg Ala Asn Arg Val Leu Arg Ala Arg Cys Arg
 500 505 510
 Arg Ala Val Lys Ser Asn Ala Cys Tyr Trp Ala Val Leu Leu Leu Val
 515 520 525

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Phe Leu Asn Thr Leu Thr Ile Ala Ser Glu His His Gly Gln Pro Val
 530 535 540
 Trp Leu Thr Gln Ile Gln Glu Tyr Ala Asn Lys Val Leu Leu Cys Leu
 545 550 555 560
 Phe Thr Val Glu Met Leu Leu Lys Leu Tyr Gly Leu Gly Pro Ser Ala
 565 570 575
 Tyr Val Ser Ser Phe Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly
 580 585 590
 Gly Ile Leu Glu Thr Thr Leu Val Glu Val Gly Ala Met Gln Pro Leu
 595 600 605
 Gly Ile Ser Val Leu Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val
 610 615 620
 Thr Arg His Trp Ala Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn
 625 630 635 640
 Ser Met Lys Ser Ile Ala Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile
 645 650 655
 Ile Ile Phe Ser Leu Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn
 660 665 670
 Phe Asp Gln Thr His Thr Lys Arg Ser Thr Phe Asp Thr Phe Pro Gln
 675 680 685
 Ala Leu Leu Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Val
 690 695 700
 Val Met Tyr Asp Gly Ile Met Ala Tyr Gly Gly Pro Phe Phe Pro Gly
 705 710 715 720
 Met Leu Val Cys Ile Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr
 725 730 735
 Ile Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Ser
 740 745 750
 Gly Asp Ala Gly Thr Ala Lys Asp Lys Gly Gly Glu Lys Ser Asn Glu
 755 760 765
 Lys Asp Leu Pro Gln Glu Asn Glu Gly Leu Val Pro Gly Val Glu Lys
 770 775 780

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Glu Glu Glu Glu Gly Ala Arg Arg Glu Gly Ala Asp Met Glu Glu Glu
785 790 795 800

Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Gly Ala
805 810 815

Gly Gly Val Glu Leu Leu Gln Glu Val Val Pro Lys Glu Lys Val Val
820 825 830

Pro Ile Pro Glu Gly Ser Ala Phe Phe Cys Leu Ser Gln Thr Asn Pro
835 840 845

Leu Arg Lys Gly Cys His Thr Leu Ile His His His Val Phe Thr Asn
850 855 860

Leu Ile Leu Val Phe Ile Ile Leu Ser Ser Val Ser Leu Ala Ala Glu
865 870 875 880

Asp Pro Ile Arg Ala His Ser Phe Arg Asn His Ile Leu Gly Tyr Phe
885 890 895

Asp Tyr Ala Phe Thr Ser Ile Phe Thr Val Glu Ile Leu Leu Lys Met
900 905 910

Thr Val Phe Gly Ala Phe Leu His Arg Gly Ser Phe Cys Arg Ser Trp
915 920 925

Phe Asn Met Leu Asp Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe
930 935 940

Gly Ile His Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu
945 950 955 960

Arg Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys
965 970 975

His Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile
980 985 990

Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val
995 1000 1005

Gln Leu Phe Lys Gly Lys Phe Tyr Thr Cys Thr Asp Glu Ala Lys
1010 1015 1020

His Thr Pro Gln Glu Cys Lys Gly Ser Phe Leu Val Tyr Pro Asp
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1025

1030

Gly Asp Val Ser Arg Pro Leu Val Arg Glu Arg Leu Trp Val Asn
1040 1045 1050

Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu
1055 1060 1065

Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys
1070 1075 1080

Ala Ile Asp Ala Tyr Ala Glu Asp His Gly Pro Ile Tyr Asn Tyr
1085 1090 1095

Arg Val Glu Ile Ser Val Phe Phe Ile Val Tyr Ile Ile Ile Ile
1100 1105 1110

Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Ile Thr
1115 1120 1125

Phe Arg Ala Gln Gly Glu Gln Glu Tyr Gln Asn Cys Glu Leu Asp
1130 1135 1140

Lys Asn Gln Arg Gln Cys Val Glu Tyr Ala Leu Lys Ala Gln Pro
1145 1150 1155

Leu Arg Arg Tyr Ile Pro Lys Asn Pro His Gln Tyr Arg Val Trp
1160 1165 1170

Ala Thr Val Asn Ser Ala Ala Phe Glu Tyr Leu Met Phe Leu Leu
1175 1180 1185

Ile Leu Leu Asn Thr Val Ala Leu Ala Met Gln His Tyr Glu Gln
1190 1195 1200

Thr Ala Pro Phe Asn Tyr Ala Met Asp Ile Leu Asn Met Val Phe
1205 1210 1215

Thr Gly Leu Phe Thr Ile Glu Met Val Leu Lys Ile Ile Ala Phe
1220 1225 1230

Lys Pro Lys His Tyr Phe Thr Asp Ala Trp Asn Thr Phe Asp Ala
1235 1240 1245

Leu Ile Val Val Gly Ser Ile Val Asp Ile Ala Val Thr Glu Val
1250 1255 1260

Asn Asn Gly Gly His Leu Gly Glu Ser Ser Glu Asp Ser Ser Arg
 1265 1270 1275
 Ile Ser Ile Thr Phe Phe Arg Leu Phe Arg Val Met Arg Leu Val
 1280 1285 1290
 Lys Leu Leu Ser Lys Gly Glu Gly Ile Arg Thr Leu Leu Trp Thr
 1295 1300 1305
 Phe Ile Lys Ser Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile
 1310 1315 1320
 Ala Met Ile Phe Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe
 1325 1330 1335
 Gly Lys Val Ala Leu Gln Asp Gly Thr Gln Ile Asn Arg Asn Asn
 1340 1345 1350
 Asn Phe Gln Thr Phe Pro Gln Ala Val Leu Leu Leu Phe Arg Cys
 1355 1360 1365
 Ala Thr Gly Glu Ala Trp Gln Glu Ile Met Leu Ala Ser Leu Pro
 1370 1375 1380
 Gly Asn Arg Cys Asp Pro Glu Ser Asp Phe Gly Pro Gly Glu Glu
 1385 1390 1395
 Phe Thr Cys Gly Ser Asn Phe Ala Ile Ala Tyr Phe Ile Ser Phe
 1400 1405 1410
 Phe Met Leu Cys Ala Phe Leu Ile Ile Asn Leu Phe Val Ala Val
 1415 1420 1425
 Ile Met Asp Asn Phe Asp Tyr Leu Thr Arg Asp Trp Ser Ile Leu
 1430 1435 1440
 Gly Pro His His Leu Asp Glu Phe Lys Arg Ile Trp Ser Glu Tyr
 1445 1450 1455
 Asp Pro Gly Ala Lys Gly Arg Ile Lys His Leu Asp Val Val Ala
 1460 1465 1470
 Leu Leu Arg Arg Ile Gln Pro Pro Leu Gly Phe Gly Lys Leu Cys
 1475 1480 1485
 Pro His Arg Val Ala Cys Lys Arg Leu Val Ala Met Asn Met Pro
 1490 1495 1500

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Leu	Asn	Ser	Asp	Gly	Thr	Val	Thr	Phe	Asn	Ala	Thr	Leu	Phe	Ala
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Leu	Val	Arg	Thr	Ser	Leu	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Leu	Glu
1520						1525					1530			
Gln	Ala	Asn	Gln	Glu	Leu	Arg	Ile	Val	Ile	Lys	Lys	Ile	Trp	Lys
1535						1540					1545			
Arg	Met	Lys	Gln	Lys	Leu	Leu	Asp	Glu	Val	Ile	Pro	Pro	Pro	Asp
1550						1555					1560			
Glu	Glu	Glu	Val	Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile
1565						1570					1575			
Gln	Asp	Tyr	Phe	Arg	Lys	Phe	Arg	Arg	Arg	Lys	Glu	Lys	Gly	Leu
1580						1585					1590			
Leu	Gly	Asn	Asp	Ala	Ala	Pro	Ser	Thr	Ser	Ser	Ala	Leu	Gln	Ala
1595						1600					1605			
Gly	Leu	Arg	Ser	Leu	Gln	Asp	Leu	Gly	Pro	Glu	Met	Arg	Gln	Ala
1610						1615					1620			
Leu	Thr	Cys	Asp	Thr	Glu	Glu	Glu	Glu	Glu	Glu	Gly	Gln	Glu	Gly
1625						1630					1635			
Val	Glu	Glu	Glu	Asp	Glu	Lys	Asp	Leu	Glu	Thr	Asn	Lys	Ala	Thr
1640						1645					1650			
Met	Val	Ser	Gln	Pro	Ser	Ala	Arg	Arg	Gly	Ser	Gly	Ile	Ser	Val
1655						1660					1665			
Ser	Leu	Pro	Val	Gly	Asp	Arg	Leu	Pro	Asp	Ser	Leu	Ser	Phe	Gly
1670						1675					1680			
Pro	Ser	Asp	Asp	Asp	Arg	Gly	Thr	Pro	Thr	Ser	Ser	Gln	Pro	Ser
1685						1690					1695			
Val	Pro	Gln	Ala	Gly	Ser	Asn	Thr	His	Arg	Arg	Gly	Ser	Gly	Ala
1700						1705					1710			
Leu	Ile	Phe	Thr	Ile	Pro	Glu	Glu	Gly	Asn	Ser	Gln	Pro	Lys	Gly
1715						1720					1725			
Thr	Lys	Gly	Gln	Asn	Lys	Gln	Asp	Glu	Asp	Glu	Glu	Val	Pro	Asp
1730						1735					1740			

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Arg	Leu	Ser	Tyr	Leu	Asp	Glu	Gln	Ala	Gly	Thr	Pro	Pro	Cys	Ser
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Val	Leu	Leu	Pro	Pro	His	Arg	Ala	Gln	Arg	Tyr	Met	Asp	Gly	His
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Leu	Val	Pro	Arg	Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Gly	Arg
	1775					1780					1785			
Lys	Pro	Ser	Phe	Thr	Ile	Gln	Cys	Leu	Gln	Arg	Gln	Gly	Ser	Cys
	1790					1795					1800			
Glu	Asp	Leu	Pro	Ile	Pro	Gly	Thr	Tyr	His	Arg	Gly	Arg	Asn	Ser
	1805					1810					1815			
Gly	Pro	Asn	Arg	Ala	Gln	Gly	Ser	Trp	Ala	Thr	Pro	Pro	Gln	Arg
	1820					1825					1830			
Gly	Arg	Leu	Leu	Tyr	Ala	Pro	Leu	Leu	Leu	Val	Glu	Glu	Gly	Ala
	1835					1840					1845			
Ala	Gly	Glu	Gly	Tyr	Leu	Gly	Arg	Ser	Ser	Gly	Pro	Leu	Arg	Thr
	1850					1855					1860			
Phe	Thr	Cys	Leu	His	Val	Pro	Gly	Thr	His	Ser	Asp	Pro	Ser	His
	1865					1870					1875			
Gly	Lys	Arg	Gly	Ser	Ala	Asp	Ser	Leu	Val	Glu	Ala	Val	Leu	Ile
	1880					1885					1890			
Ser	Glu	Gly	Leu	Gly	Leu	Phe	Ala	Arg	Asp	Pro	Arg	Phe	Val	Ala
	1895					1900					1905			
Leu	Ala	Lys	Gln	Glu	Ile	Ala	Asp	Ala	Cys	Arg	Leu	Thr	Leu	Asp
	1910					1915					1920			
Glu	Met	Asp	Asn	Ala	Ala	Ser	Asp	Leu	Leu	Ala	Gln	Gly	Thr	Ser
	1925					1930					1935			
Ser	Leu	Tyr	Ser	Asp	Glu	Glu	Ser	Ile	Leu	Ser	Arg	Phe	Asp	Glu
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Glu	Asp	Leu	Gly	Asp	Glu	Met	Ala	Cys	Val	His	Ala	Leu		
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<211> 1966

<212> PRT

<213> Homo sapiens

<400> 6

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35 40 45

Lys Arg Arg Asn Gln His Ser Lys His Lys Thr Val Ala Val Ala Ser
50 55 60

Ala Gln Arg Ser Pro Arg Ala Leu Phe Cys Leu Thr Leu Ala Asn Pro
65 70 75 80

Leu Arg Arg Ser Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Asp Ile
85 90 95

Leu Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Gly Val Tyr
100 105 110

Ile Pro Phe Pro Glu Asp Asp Ser Asn Thr Ala Asn His Asn Leu Glu
115 120 125

Gln Val Glu Tyr Val Phe Leu Val Ile Phe Thr Val Glu Thr Val Leu
130 135 140

Lys Ile Val Ala Tyr Gly Leu Val Leu His Pro Ser Ala Tyr Ile Arg
145 150 155 160

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
165 170 175

Ser Val Leu Leu Glu Gln Gly Pro Gly Arg Pro Gly Asp Ala Pro His
180 185 190

Thr Gly Gly Lys Pro Gly Gly Phe Asp Val Lys Ala Leu Arg Ala Phe
195 200 205

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Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu His
210 215 220

Ile Val Leu Asn Ser Ile Met Lys Ala Leu Val Pro Leu Leu His Ile
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Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu
245 250 255

Glu Leu Phe Leu Gly Arg Met His Lys Thr Cys Tyr Phe Leu Gly Ser
260 265 270

Asp Met Glu Ala Glu Glu Asp Pro Ser Pro Cys Ala Ser Ser Gly Ser
275 280 285

Gly Arg Ala Cys Thr Leu Asn Gln Thr Glu Cys Arg Gly Arg Trp Pro
290 295 300

Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Phe Phe Ala Met
305 310 315 320

Leu Thr Val Phe Gln Cys Val Thr Met Glu Gly Trp Thr Asp Val Leu
325 330 335

Tyr Trp Met Gln Asp Ala Met Gly Tyr Glu Leu Pro Trp Val Tyr Phe
340 345 350

Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu Val Leu
355 360 365

Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys Ala
370 375 380

Arg Gly Asp Phe Gln Lys Gln Arg Glu Lys Gln Gln Met Glu Glu Asp
385 390 395 400

Leu Arg Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Glu Leu Asp Met
405 410 415

Glu Asp Pro Ser Ala Asp Asp Asn Leu Gly Pro Gln Leu Ala Glu Leu
420 425 430

Thr Asn Arg Arg Arg Gly Arg Leu Arg Trp Phe Ser His Ser Thr Arg
435 440 445

Ser Thr His Ser Thr Ser Ser His Ala Ser Leu Pro Ala Ser Asp Thr
450 455 460

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Gly Ser Met Thr Glu Thr Gln Gly Asp Glu Asp Glu Glu Glu Gly Ala
465 470 475 480

Leu Ala Ser Cys Thr Arg Cys Leu Asn Lys Ile Met Lys Thr Arg Val
485 490 495

Cys Arg Arg Leu Arg Arg Ala Asn Arg Val Leu Arg Ala Arg Cys Arg
500 505 510

Arg Ala Val Lys Ser Asn Ala Cys Tyr Trp Ala Val Leu Leu Leu Val
515 520 525

Phe Leu Asn Thr Leu Thr Ile Ala Ser Glu His His Gly Gln Pro Val
530 535 540

Trp Leu Thr Gln Ile Gln Glu Tyr Ala Asn Lys Val Leu Leu Cys Leu
545 550 555 560

Phe Thr Val Glu Met Leu Leu Lys Leu Tyr Gly Leu Gly Pro Ser Ala
565 570 575

Tyr Val Ser Ser Phe Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly
580 585 590

Gly Ile Leu Glu Thr Thr Leu Val Glu Val Gly Ala Met Gln Pro Leu
595 600 605

Gly Ile Ser Val Leu Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val
610 615 620

Thr Arg His Trp Ala Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn
625 630 635 640

Ser Met Lys Ser Ile Ala Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile
645 650 655

Ile Ile Phe Ser Leu Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn
660 665 670

Phe Asp Gln Thr His Thr Lys Arg Ser Thr Phe Asp Thr Phe Pro Gln
675 680 685

Ala Leu Leu Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Val
690 695 700

Val Met Tyr Asp Gly Ile Met Ala Tyr Gly Gly Pro Phe Phe Pro Gly
705 710 715 720

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Met Leu Val Cys Ile Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr
725 730 735

Ile Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Ser
740 745 750

Gly Asp Ala Gly Thr Ala Lys Asp Lys Gly Gly Glu Lys Ser Asn Glu
755 760 765

Lys Asp Leu Pro Gln Glu Asn Glu Gly Leu Val Pro Gly Val Glu Lys
770 775 780

Glu Glu Glu Glu Gly Ala Arg Arg Glu Gly Ala Asp Met Glu Glu Glu
785 790 795 800

Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Gly Ala
805 810 815

Gly Gly Val Glu Leu Leu Gln Glu Val Val Pro Lys Glu Lys Val Val
820 825 830

Pro Ile Pro Glu Gly Ser Ala Phe Phe Cys Leu Ser Gln Thr Asn Pro
835 840 845

Leu Arg Lys Gly Cys His Thr Leu Ile His His His Val Phe Thr Asn
850 855 860

Leu Ile Leu Val Phe Ile Ile Leu Ser Ser Val Ser Leu Ala Ala Glu
865 870 875 880

Asp Pro Ile Arg Ala His Ser Phe Arg Asn His Ile Leu Gly Tyr Phe
885 890 895

Asp Tyr Ala Phe Thr Ser Ile Phe Thr Val Glu Ile Leu Leu Lys Met
900 905 910

Thr Val Phe Gly Ala Phe Leu His Arg Gly Ser Phe Cys Arg Ser Trp
915 920 925

Phe Asn Met Leu Asp Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe
930 935 940

Gly Ile His Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu
945 950 955 960

Arg Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys
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His Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile
980 985 990

Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val
995 1000 1005

Gln Leu Phe Lys Gly Lys Phe Tyr Thr Cys Thr Asp Glu Ala Lys
1010 1015 1020

His Thr Pro Gln Glu Cys Lys Gly Ser Phe Leu Val Tyr Pro Asp
1025 1030 1035

Gly Asp Val Ser Arg Pro Leu Val Arg Glu Arg Leu Trp Val Asn
1040 1045 1050

Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu
1055 1060 1065

Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys
1070 1075 1080

Ala Ile Asp Ala Tyr Ala Glu Asp His Gly Pro Ile Tyr Asn Tyr
1085 1090 1095

Arg Val Glu Ile Ser Val Phe Phe Ile Val Tyr Ile Ile Ile Ile
1100 1105 1110

Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Ile Thr
1115 1120 1125

Phe Arg Ala Gln Gly Glu Gln Glu Tyr Gln Asn Cys Glu Leu Asp
1130 1135 1140

Lys Asn Gln Arg Gln Cys Val Glu Tyr Ala Leu Lys Ala Gln Pro
1145 1150 1155

Leu Arg Arg Tyr Ile Pro Lys Asn Pro His Gln Tyr Arg Val Trp
1160 1165 1170

Ala Thr Val Asn Ser Ala Ala Phe Glu Tyr Leu Met Phe Leu Leu
1175 1180 1185

Ile Leu Leu Asn Thr Val Ala Leu Ala Met Gln His Tyr Glu Gln
1190 1195 1200

Thr Ala Pro Phe Asn Tyr Ala Met Asp Ile Leu Asn Met Val Phe
 1205 1210 1215
 Thr Gly Leu Phe Thr Ile Glu Met Val Leu Lys Ile Ile Ala Phe
 1220 1225 1230
 Lys Pro Lys His Tyr Phe Thr Asp Ala Trp Asn Thr Phe Asp Ala
 1235 1240 1245
 Leu Ile Val Val Gly Ser Ile Val Asp Ile Ala Val Thr Glu Val
 1250 1255 1260
 Asn Asn Gly Gly His Leu Gly Glu Ser Ser Glu Asp Ser Ser Arg
 1265 1270 1275
 Ile Ser Ile Thr Phe Phe Arg Leu Phe Arg Val Met Arg Leu Val
 1280 1285 1290
 Lys Leu Leu Ser Lys Gly Glu Gly Ile Arg Thr Leu Leu Trp Thr
 1295 1300 1305
 Phe Ile Lys Ser Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile
 1310 1315 1320
 Ala Met Ile Phe Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe
 1325 1330 1335
 Gly Lys Val Ala Leu Gln Asp Gly Thr Gln Ile Asn Arg Asn Asn
 1340 1345 1350
 Asn Phe Gln Thr Phe Pro Gln Ala Val Leu Leu Leu Phe Arg Cys
 1355 1360 1365
 Ala Thr Gly Glu Ala Trp Gln Glu Ile Met Leu Ala Ser Leu Pro
 1370 1375 1380
 Gly Asn Arg Cys Asp Pro Glu Ser Asp Phe Gly Pro Gly Glu Glu
 1385 1390 1395
 Phe Thr Cys Gly Ser Asn Phe Ala Ile Ala Tyr Phe Ile Ser Phe
 1400 1405 1410
 Phe Met Leu Cys Ala Phe Leu Ile Ile Asn Leu Phe Val Ala Val
 1415 1420 1425
 Ile Met Asp Asn Phe Asp Tyr Leu Thr Arg Asp Trp Ser Ile Leu
 1430 1435 1440

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Gly	Pro	His	His	Leu	Asp	Glu	Phe	Lys	Arg	Ile	Trp	Ser	Glu	Tyr
1445						1450					1455			
Asp	Pro	Gly	Ala	Lys	Gly	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Ala
1460						1465					1470			
Leu	Leu	Arg	Arg	Ile	Gln	Pro	Pro	Leu	Gly	Phe	Gly	Lys	Leu	Cys
1475						1480					1485			
Pro	His	Arg	Val	Ala	Cys	Lys	Arg	Leu	Val	Ala	Met	Asn	Met	Pro
1490						1495					1500			
Leu	Asn	Ser	Asp	Gly	Thr	Val	Thr	Phe	Asn	Ala	Thr	Leu	Phe	Ala
1505						1510					1515			
Leu	Val	Arg	Thr	Ser	Leu	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Leu	Glu
1520						1525					1530			
Gln	Ala	Asn	Gln	Glu	Leu	Arg	Ile	Val	Ile	Lys	Lys	Ile	Trp	Lys
1535						1540					1545			
Arg	Met	Lys	Gln	Lys	Leu	Leu	Asp	Glu	Val	Ile	Pro	Pro	Pro	Asp
1550						1555					1560			
Glu	Glu	Glu	Val	Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile
1565						1570					1575			
Gln	Asp	Tyr	Phe	Arg	Lys	Phe	Arg	Arg	Arg	Lys	Glu	Lys	Gly	Leu
1580						1585					1590			
Leu	Gly	Asn	Asp	Ala	Ala	Pro	Ser	Thr	Ser	Ser	Ala	Leu	Gln	Ala
1595						1600					1605			
Gly	Leu	Arg	Ser	Leu	Gln	Asp	Leu	Gly	Pro	Glu	Met	Arg	Gln	Ala
1610						1615					1620			
Leu	Thr	Cys	Asp	Thr	Glu	Glu	Glu	Glu	Glu	Glu	Gly	Gln	Glu	Gly
1625						1630					1635			
Val	Glu	Glu	Glu	Asp	Glu	Lys	Asp	Leu	Glu	Thr	Asn	Lys	Ala	Thr
1640						1645					1650			
Met	Val	Ser	Gln	Pro	Ser	Ala	Arg	Arg	Gly	Ser	Gly	Ile	Ser	Val
1655						1660					1665			
Ser	Leu	Pro	Val	Gly	Asp	Arg	Leu	Pro	Asp	Ser	Leu	Ser	Phe	Gly
1670						1675					1680			

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Pro	Ser	Asp	Asp	Asp	Arg	Gly	Thr	Pro	Thr	Ser	Ser	Gln	Pro	Ser
	1685					1690					1695			
Val	Pro	Gln	Ala	Gly	Ser	Asn	Thr	His	Arg	Arg	Gly	Ser	Gly	Ala
	1700					1705					1710			
Leu	Ile	Phe	Thr	Ile	Pro	Glu	Glu	Gly	Asn	Ser	Gln	Pro	Lys	Gly
	1715					1720					1725			
Thr	Lys	Gly	Gln	Asn	Lys	Gln	Asp	Glu	Asp	Glu	Glu	Val	Pro	Asp
	1730					1735					1740			
Arg	Leu	Ser	Tyr	Leu	Asp	Glu	Gln	Ala	Gly	Thr	Pro	Pro	Cys	Ser
	1745					1750					1755			
Val	Leu	Leu	Pro	Pro	His	Arg	Ala	Gln	Arg	Tyr	Met	Asp	Gly	His
	1760					1765					1770			
Leu	Val	Pro	Arg	Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Gly	Arg
	1775					1780					1785			
Lys	Pro	Ser	Phe	Thr	Ile	Gln	Cys	Leu	Gln	Arg	Gln	Gly	Ser	Cys
	1790					1795					1800			
Glu	Asp	Leu	Pro	Ile	Pro	Gly	Thr	Tyr	His	Arg	Gly	Arg	Asn	Ser
	1805					1810					1815			
Gly	Pro	Asn	Arg	Ala	Gln	Gly	Ser	Trp	Ala	Thr	Pro	Pro	Gln	Arg
	1820					1825					1830			
Gly	Arg	Leu	Leu	Tyr	Ala	Pro	Leu	Leu	Leu	Val	Glu	Glu	Gly	Ala
	1835					1840					1845			
Ala	Gly	Glu	Gly	Tyr	Leu	Gly	Arg	Ser	Ser	Gly	Pro	Leu	Arg	Thr
	1850					1855					1860			
Phe	Thr	Cys	Leu	His	Val	Pro	Gly	Thr	His	Ser	Asp	Pro	Ser	His
	1865					1870					1875			
Gly	Lys	Arg	Gly	Ser	Ala	Asp	Ser	Leu	Val	Glu	Ala	Val	Leu	Ile
	1880					1885					1890			
Ser	Glu	Gly	Leu	Gly	Leu	Phe	Ala	Arg	Asp	Pro	Arg	Phe	Val	Ala
	1895					1900					1905			
Leu	Ala	Lys	Gln	Glu	Ile	Ala	Asp	Ala	Cys	Arg	Leu	Thr	Leu	Asp

1910

1915

Glu Met Asp Asn Ala Ala Ser Asp Leu Leu Ala Gln Gly Thr Ser
1925 1930 1935

Ser Leu Tyr Ser Asp Glu Glu Ser Ile Leu Ser Arg Phe Asp Glu
1940 1945 1950

Glu Asp Leu Gly Asp Glu Met Ala Cys Val His Ala Leu
1955 1960 1965

<210> 7

<211> 1977

<212> PRT

<213> Homo sapiens

<400> 7

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Ala Asn Gly Ala Gly Pro Gly Pro Glu Trp Gly Leu Cys Pro Gly Pro
20 25 30

Pro Ala Val Glu Gly Glu Ser Ser Gly Ala Ser Gly Leu Gly Thr Pro
35 40 45

Lys Arg Arg Asn Gln His Ser Lys His Lys Thr Val Ala Val Ala Ser
50 55 60

Ala Gln Arg Ser Pro Arg Ala Leu Phe Cys Leu Thr Leu Ala Asn Pro
65 70 75 80

Leu Arg Arg Ser Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Asp Ile
85 90 95

Leu Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Gly Val Tyr
100 105 110

Ile Pro Phe Pro Glu Asp Asp Ser Asn Thr Ala Asn His Asn Leu Glu
115 120 125

Gln Val Glu Tyr Val Phe Leu Val Ile Phe Thr Val Glu Thr Val Leu
130 135 140

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Lys Ile Val Ala Tyr Gly Leu Val Leu His Pro Ser Ala Tyr Ile Arg
145 150 155 160

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
165 170 175

Ser Val Leu Leu Glu Gln Gly Pro Gly Arg Pro Gly Asp Ala Pro His
180 185 190

Thr Gly Gly Lys Pro Gly Gly Phe Asp Val Lys Ala Leu Arg Ala Phe
195 200 205

Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu His
210 215 220

Ile Val Leu Asn Ser Ile Met Lys Ala Leu Val Pro Leu Leu His Ile
225 230 235 240

Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu
245 250 255

Glu Leu Phe Leu Gly Arg Met His Lys Thr Cys Tyr Phe Leu Gly Ser
260 265 270

Asp Met Glu Ala Glu Glu Asp Pro Ser Pro Cys Ala Ser Ser Gly Ser
275 280 285

Gly Arg Ala Cys Thr Leu Asn Gln Thr Glu Cys Arg Gly Arg Trp Pro
290 295 300

Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Phe Phe Ala Met
305 310 315 320

Leu Thr Val Phe Gln Cys Val Thr Met Glu Gly Trp Thr Asp Val Leu
325 330 335

Tyr Trp Met Gln Asp Ala Met Gly Tyr Glu Leu Pro Trp Val Tyr Phe
340 345 350

Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu Val Leu
355 360 365

Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys Ala
370 375 380

Arg Gly Asp Phe Gln Lys Gln Arg Glu Lys Gln Gln Met Glu Glu Asp
385 390 395 400

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Leu Arg Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Glu Leu Asp Met
 405 410 415
 Glu Asp Pro Ser Ala Asp Asp Asn Leu Gly Ser Met Ala Glu Glu Gly
 420 425 430
 Arg Ala Gly His Arg Pro Gln Leu Ala Glu Leu Thr Asn Arg Arg Arg
 435 440 445
 Gly Arg Leu Arg Trp Phe Ser His Ser Thr Arg Ser Thr His Ser Thr
 450 455 460
 Ser Ser His Ala Ser Leu Pro Ala Ser Asp Thr Gly Ser Met Thr Glu
 465 470 475 480
 Thr Gln Gly Asp Glu Asp Glu Glu Glu Gly Ala Leu Ala Ser Cys Thr
 485 490 495
 Arg Cys Leu Asn Lys Ile Met Lys Thr Arg Val Cys Arg Arg Leu Arg
 500 505 510
 Arg Ala Asn Arg Val Leu Arg Ala Arg Cys Arg Arg Ala Val Lys Ser
 515 520 525
 Asn Ala Cys Tyr Trp Ala Val Leu Leu Leu Val Phe Leu Asn Thr Leu
 530 535 540
 Thr Ile Ala Ser Glu His His Gly Gln Pro Val Trp Leu Thr Gln Ile
 545 550 555 560
 Gln Glu Tyr Ala Asn Lys Val Leu Leu Cys Leu Phe Thr Val Glu Met
 565 570 575
 Leu Leu Lys Leu Tyr Gly Leu Gly Pro Ser Ala Tyr Val Ser Ser Phe
 580 585 590
 Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly Gly Ile Leu Glu Thr
 595 600 605
 Thr Leu Val Glu Val Gly Ala Met Gln Pro Leu Gly Ile Ser Val Leu
 610 615 620
 Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val Thr Arg His Trp Ala
 625 630 635 640
 Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Met Lys Ser Ile
 645 650 655

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Ala Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Ile Ile Phe Ser Leu
660 665 670

Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn Phe Asp Gln Thr His
675 680 685

Thr Lys Arg Ser Thr Phe Asp Thr Phe Pro Gln Ala Leu Leu Thr Val
690 695 700

Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Val Val Met Tyr Asp Gly
705 710 715 720

Ile Met Ala Tyr Gly Gly Pro Phe Phe Pro Gly Met Leu Val Cys Ile
725 730 735

Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr Ile Leu Leu Asn Val
740 745 750

Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Ser Gly Asp Ala Gly Thr
755 760 765

Ala Lys Asp Lys Gly Gly Glu Lys Ser Asn Glu Lys Asp Leu Pro Gln
770 775 780

Glu Asn Glu Gly Leu Val Pro Gly Val Glu Lys Glu Glu Glu Glu Gly
785 790 795 800

Ala Arg Arg Glu Gly Ala Asp Met Glu Glu Glu Glu Glu Glu Glu
805 810 815

Glu Glu Glu Glu Glu Glu Glu Glu Gly Ala Gly Gly Val Glu Leu
820 825 830

Leu Gln Glu Val Val Pro Lys Glu Lys Val Val Pro Ile Pro Glu Gly
835 840 845

Ser Ala Phe Phe Cys Leu Ser Gln Thr Asn Pro Leu Arg Lys Gly Cys
850 855 860

His Thr Leu Ile His His His Val Phe Thr Asn Leu Ile Leu Val Phe
865 870 875 880

Ile Ile Leu Ser Ser Val Ser Leu Ala Ala Glu Asp Pro Ile Arg Ala
885 890 895

His Ser Phe Arg Asn His Ile Leu Gly Tyr Phe Asp Tyr Ala Phe Thr
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900

905

910

Ser Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Val Phe Gly Ala
 915 920 925

Phe Leu His Arg Gly Ser Phe Cys Arg Ser Trp Phe Asn Met Leu Asp
 930 935 940

Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe Gly Ile His Ser Ser
 945 950 955 960

Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg Val Leu Arg Pro
 965 970 975

Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His Val Val Gln Cys
 980 985 990

Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile Met Ile Val Thr Thr
 995 1000 1005

Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val Gln Leu Phe Lys
 1010 1015 1020

Gly Lys Phe Tyr Thr Cys Thr Asp Glu Ala Lys His Thr Pro Gln
 1025 1030 1035

Glu Cys Lys Gly Ser Phe Leu Val Tyr Pro Asp Gly Asp Val Ser
 1040 1045 1050

Arg Pro Leu Val Arg Glu Arg Leu Trp Val Asn Ser Asp Phe Asn
 1055 1060 1065

Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu Phe Thr Val Ser
 1070 1075 1080

Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys Ala Ile Asp Ala
 1085 1090 1095

Tyr Ala Glu Asp His Gly Pro Ile Tyr Asn Tyr Arg Val Glu Ile
 1100 1105 1110

Ser Val Phe Phe Ile Val Tyr Ile Ile Ile Ile Ala Phe Phe Met
 1115 1120 1125

Met Asn Ile Phe Val Gly Phe Val Ile Ile Thr Phe Arg Ala Gln
 1130 1135 1140

Gly Glu Gln Glu Tyr Gln Asn Cys Glu Leu Asp Lys Asn Gln Arg
 1145 1150 1155
 Gln Cys Val Glu Tyr Ala Leu Lys Ala Gln Pro Leu Arg Arg Tyr
 1160 1165 1170
 Ile Pro Lys Asn Pro His Gln Tyr Arg Val Trp Ala Thr Val Asn
 1175 1180 1185
 Ser Ala Ala Phe Glu Tyr Leu Met Phe Leu Leu Ile Leu Leu Asn
 1190 1195 1200
 Thr Val Ala Leu Ala Met Gln His Tyr Glu Gln Thr Ala Pro Phe
 1205 1210 1215
 Asn Tyr Ala Met Asp Ile Leu Asn Met Val Phe Thr Gly Leu Phe
 1220 1225 1230
 Thr Ile Glu Met Val Leu Lys Ile Ile Ala Phe Lys Pro Lys His
 1235 1240 1245
 Tyr Phe Thr Asp Ala Trp Asn Thr Phe Asp Ala Leu Ile Val Val
 1250 1255 1260
 Gly Ser Ile Val Asp Ile Ala Val Thr Glu Val Asn Asn Gly Gly
 1265 1270 1275
 His Leu Gly Glu Ser Ser Glu Asp Ser Ser Arg Ile Ser Ile Thr
 1280 1285 1290
 Phe Phe Arg Leu Phe Arg Val Met Arg Leu Val Lys Leu Leu Ser
 1295 1300 1305
 Lys Gly Glu Gly Ile Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser
 1310 1315 1320
 Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile Ala Met Ile Phe
 1325 1330 1335
 Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Val Ala
 1340 1345 1350
 Leu Gln Asp Gly Thr Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr
 1355 1360 1365
 Phe Pro Gln Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu
 1370 1375 1380

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Ala Trp Gln Glu Ile Met Leu Ala Ser Leu Pro Gly Asn Arg Cys
1385 1390 1395

Asp Pro Glu Ser Asp Phe Gly Pro Gly Glu Glu Phe Thr Cys Gly
1400 1405 1410

Ser Asn Phe Ala Ile Ala Tyr Phe Ile Ser Phe Phe Met Leu Cys
1415 1420 1425

Ala Phe Leu Ile Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn
1430 1435 1440

Phe Asp Tyr Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His
1445 1450 1455

Leu Asp Glu Phe Lys Arg Ile Trp Ser Glu Tyr Asp Pro Gly Ala
1460 1465 1470

Lys Gly Arg Ile Lys His Leu Asp Val Val Ala Leu Leu Arg Arg
1475 1480 1485

Ile Gln Pro Pro Leu Gly Phe Gly Lys Leu Cys Pro His Arg Val
1490 1495 1500

Ala Cys Lys Arg Leu Val Ala Met Asn Met Pro Leu Asn Ser Asp
1505 1510 1515

Gly Thr Val Thr Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr
1520 1525 1530

Ser Leu Lys Ile Lys Thr Glu Gly Asn Leu Glu Gln Ala Asn Gln
1535 1540 1545

Glu Leu Arg Ile Val Ile Lys Lys Ile Trp Lys Arg Met Lys Gln
1550 1555 1560

Lys Leu Leu Asp Glu Val Ile Pro Pro Pro Asp Glu Glu Glu Val
1565 1570 1575

Thr Val Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Asp Tyr Phe
1580 1585 1590

Arg Lys Phe Arg Arg Arg Lys Glu Lys Gly Leu Leu Gly Asn Asp
1595 1600 1605

Ala Ala Pro Ser Thr Ser Ser Ala Leu Gln Ala Gly Leu Arg Ser
1610 1615 1620

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Leu	Gln	Asp	Leu	Gly	Pro	Glu	Met	Arg	Gln	Ala	Leu	Thr	Cys	Asp
1625						1630					1635			
Thr	Glu	Glu	Glu	Glu	Glu	Glu	Gly	Gln	Glu	Gly	Val	Glu	Glu	Glu
1640						1645					1650			
Asp	Glu	Lys	Asp	Leu	Glu	Thr	Asn	Lys	Ala	Thr	Met	Val	Ser	Gln
1655						1660					1665			
Pro	Ser	Ala	Arg	Arg	Gly	Ser	Gly	Ile	Ser	Val	Ser	Leu	Pro	Val
1670						1675					1680			
Gly	Asp	Arg	Leu	Pro	Asp	Ser	Leu	Ser	Phe	Gly	Pro	Ser	Asp	Asp
1685						1690					1695			
Asp	Arg	Gly	Thr	Pro	Thr	Ser	Ser	Gln	Pro	Ser	Val	Pro	Gln	Ala
1700						1705					1710			
Gly	Ser	Asn	Thr	His	Arg	Arg	Gly	Ser	Gly	Ala	Leu	Ile	Phe	Thr
1715						1720					1725			
Ile	Pro	Glu	Glu	Gly	Asn	Ser	Gln	Pro	Lys	Gly	Thr	Lys	Gly	Gln
1730						1735					1740			
Asn	Lys	Gln	Asp	Glu	Asp	Glu	Glu	Val	Pro	Asp	Arg	Leu	Ser	Tyr
1745						1750					1755			
Leu	Asp	Glu	Gln	Ala	Gly	Thr	Pro	Pro	Cys	Ser	Val	Leu	Leu	Pro
1760						1765					1770			
Pro	His	Arg	Ala	Gln	Arg	Tyr	Met	Asp	Gly	His	Leu	Val	Pro	Arg
1775						1780					1785			
Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Gly	Arg	Lys	Pro	Ser	Phe
1790						1795					1800			
Thr	Ile	Gln	Cys	Leu	Gln	Arg	Gln	Gly	Ser	Cys	Glu	Asp	Leu	Pro
1805						1810					1815			
Ile	Pro	Gly	Thr	Tyr	His	Arg	Gly	Arg	Asn	Ser	Gly	Pro	Asn	Arg
1820						1825					1830			
Ala	Gln	Gly	Ser	Trp	Ala	Thr	Pro	Pro	Gln	Arg	Gly	Arg	Leu	Leu
1835						1840					1845			
Tyr	Ala	Pro	Leu	Leu	Leu	Val	Glu	Glu	Gly	Ala	Ala	Gly	Glu	Gly

1850

1855

Tyr Leu Gly Arg Ser Ser Gly Pro Leu Arg Thr Phe Thr Cys Leu
1865 1870 1875

His Val Pro Gly Thr His Ser Asp Pro Ser His Gly Lys Arg Gly
1880 1885 1890

Ser Ala Asp Ser Leu Val Glu Ala Val Leu Ile Ser Glu Gly Leu
1895 1900 1905

Gly Leu Phe Ala Arg Asp Pro Arg Phe Val Ala Leu Ala Lys Gln
1910 1915 1920

Glu Ile Ala Asp Ala Cys Arg Leu Thr Leu Asp Glu Met Asp Asn
1925 1930 1935

Ala Ala Ser Asp Leu Leu Ala Gln Gly Thr Ser Ser Leu Tyr Ser
1940 1945 1950

Asp Glu Glu Ser Ile Leu Ser Arg Phe Asp Glu Glu Asp Leu Gly
1955 1960 1965

Asp Glu Met Ala Cys Val His Ala Leu
1970 1975

<210> 8

<211> 2339

<212> PRT

<213> Homo sapiens

<400> 8

Met Val Arg Phe Gly Asp Glu Leu Gly Gly Arg Tyr Gly Gly Pro Gly
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Gly Gly Glu Arg Ala Arg Gly Gly Gly Ala Gly Gly Ala Gly Gly Pro
20 25 30

Gly Pro Gly Gly Leu Gln Pro Gly Gln Arg Val Leu Tyr Lys Gln Ser
35 40 45

Ile Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro Ile Pro Val
50 55 60

pha4262.ST25.txt

Lys Gln Asn Cys Phe Thr Val Asn Arg Ser Leu Phe Val Phe Ser Glu
65 70 75 80

Asp Asn Val Val Arg Lys Tyr Ala Lys Arg Ile Thr Glu Trp Pro Pro
85 90 95

Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys Ile Val Leu
100 105 110

Ala Leu Glu Gln His Leu Pro Asp Gly Asp Lys Thr Pro Met Ser Glu
115 120 125

Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe Glu
130 135 140

Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Val Phe His Lys Gly Ser
145 150 155 160

Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val Val Leu Thr
165 170 175

Gly Ile Leu Ala Thr Ala Gly Thr Asp Phe Asp Leu Arg Thr Leu Arg
180 185 190

Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly Ile Pro Ser
195 200 205

Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Val Pro Leu Leu
210 215 220

Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Met Phe Ala Ile Ile
225 230 235 240

Gly Leu Glu Phe Tyr Met Gly Lys Phe His Lys Ala Cys Phe Pro Asn
245 250 255

Ser Thr Asp Ala Glu Pro Val Gly Asp Phe Pro Cys Gly Lys Glu Ala
260 265 270

Pro Ala Arg Leu Cys Glu Gly Asp Thr Glu Cys Arg Glu Tyr Trp Pro
275 280 285

Gly Pro Asn Phe Gly Ile Thr Asn Phe Asp Asn Ile Leu Phe Ala Ile
290 295 300

Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp Ile Leu
305 310 315 320

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Tyr Asn Thr Asn Asp Ala Ala Gly Asn Thr Trp Asn Trp Leu Tyr Phe
325 330 335

Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Met Leu Asn Leu Val Leu
340 345 350

Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val Glu Asn
355 360 365

Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln Ile Glu Arg Glu
370 375 380

Leu Asn Gly Tyr Leu Glu Trp Ile Phe Lys Ala Glu Glu Val Met Leu
385 390 400

Ala Glu Glu Asp Arg Asn Ala Glu Glu Lys Ser Pro Leu Asp Val Leu
405 410 415

Lys Arg Ala Ala Thr Lys Lys Ser Arg Asn Asp Leu Ile His Ala Glu
420 425 430

Glu Gly Glu Asp Arg Phe Ala Asp Leu Cys Ala Val Gly Ser Pro Phe
435 440 445

Ala Arg Ala Ser Leu Lys Ser Gly Lys Thr Glu Ser Ser Ser Tyr Phe
450 455 460

Arg Arg Lys Glu Lys Met Phe Arg Phe Phe Ile Arg Arg Met Val Lys
465 470 475 480

Ala Gln Ser Phe Tyr Trp Val Val Leu Cys Val Val Ala Leu Asn Thr
485 490 495

Leu Cys Val Ala Met Val His Tyr Asn Gln Pro Arg Arg Leu Thr Thr
500 505 510

Thr Leu Tyr Phe Ala Glu Phe Val Phe Leu Gly Leu Phe Leu Thr Glu
515 520 525

Met Ser Leu Lys Met Tyr Gly Leu Gly Pro Arg Ser Tyr Phe Arg Ser
530 535 540

Ser Phe Asn Cys Phe Asp Phe Gly Val Ile Val Gly Ser Val Phe Glu
545 550 555 560

Val Val Trp Ala Ala Ile Lys Pro Gly Ser Ser Phe Gly Ile Ser Val
565 570 575

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Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Val Thr Lys Tyr Trp
580 585 590

Ser Ser Leu Arg Asn Leu Val Val Ser Leu Leu Asn Ser Met Lys Ser
595 600 605

Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe Ala
610 615 620

Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe Asn Phe Gln Asp Glu
625 630 635 640

Thr Pro Thr Thr Asn Phe Asp Thr Phe Pro Ala Ala Ile Leu Thr Val
645 650 655

Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Ala Val Met Tyr His Gly
660 665 670

Ile Glu Ser Gln Gly Gly Val Ser Lys Gly Met Phe Ser Ser Phe Tyr
675 680 685

Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val Phe
690 695 700

Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr Lys
705 710 715 720

Asp Glu Glu Glu Met Glu Glu Ala Ala Asn Gln Lys Leu Ala Leu Gln
725 730 735

Lys Ala Lys Glu Val Ala Glu Val Ser Pro Met Ser Ala Ala Asn Ile
740 745 750

Ser Ile Ala Ala Arg Gln Gln Asn Ser Ala Lys Ala Arg Ser Val Trp
755 760 765

Glu Gln Arg Ala Ser Gln Leu Arg Leu Gln Asn Leu Arg Ala Ser Cys
770 775 780

Glu Ala Leu Tyr Ser Glu Met Asp Pro Glu Glu Arg Leu Arg Phe Ala
785 790 795 800

Thr Thr Arg His Leu Arg Pro Asp Met Lys Thr His Leu Asp Arg Pro
805 810 815

Leu Val Val Glu Leu Gly Arg Asp Gly Ala Arg Gly Pro Val Gly Gly
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820

825

830

Lys Ala Arg Pro Glu Ala Ala Glu Ala Pro Glu Gly Val Asp Pro Pro
 835 840 845

Arg Arg His His Arg His Arg Asp Lys Asp Lys Thr Pro Ala Ala Gly
 850 855 860

Asp Gln Asp Arg Ala Glu Ala Pro Lys Ala Glu Ser Gly Glu Pro Gly
 865 870 875 880

Ala Arg Glu Glu Arg Pro Arg Pro His Arg Ser His Ser Lys Glu Ala
 885 890 895

Ala Gly Pro Pro Glu Ala Arg Ser Glu Arg Gly Arg Gly Pro Gly Pro
 900 905 910

Glu Gly Gly Arg Arg His His Arg Arg Gly Ser Pro Glu Glu Ala Ala
 915 920 925

Glu Arg Glu Pro Arg Arg His Arg Ala His Arg His Gln Asp Pro Ser
 930 935 940

Lys Glu Cys Ala Gly Ala Lys Gly Glu Arg Arg Ala Arg His Arg Gly
 945 950 955 960

Gly Pro Arg Ala Gly Pro Arg Glu Ala Glu Ser Gly Glu Glu Pro Ala
 965 970 975

Arg Arg His Arg Ala Arg His Lys Ala Gln Pro Ala His Glu Ala Val
 980 985 990

Glu Lys Glu Thr Thr Glu Lys Glu Ala Thr Glu Lys Glu Ala Glu Ile
 995 1000 1005

Val Glu Ala Asp Lys Glu Lys Glu Leu Arg Asn His Gln Pro Arg
 1010 1015 1020

Glu Pro His Cys Asp Leu Glu Thr Ser Gly Thr Val Thr Val Gly
 1025 1030 1035

Pro Met His Thr Leu Pro Ser Thr Cys Leu Gln Lys Val Glu Glu
 1040 1045 1050

Gln Pro Glu Asp Ala Asp Asn Gln Arg Asn Val Thr Arg Met Gly
 1055 1060 1065

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Ser	Gln	Pro	Pro	Asp	Pro	Asn	Thr	Ile	Val	His	Ile	Pro	Val	Met
1070						1075					1080			
Leu	Thr	Gly	Pro	Leu	Gly	Glu	Ala	Thr	Val	Val	Pro	Ser	Gly	Asn
1085						1090					1095			
Val	Asp	Leu	Glu	Ser	Gln	Ala	Glu	Gly	Lys	Lys	Glu	Val	Glu	Ala
1100						1105					1110			
Asp	Asp	Val	Met	Arg	Ser	Gly	Pro	Arg	Pro	Ile	Val	Pro	Tyr	Ser
1115						1120					1125			
Ser	Met	Phe	Cys	Leu	Ser	Pro	Thr	Asn	Leu	Leu	Arg	Arg	Phe	Cys
1130						1135					1140			
His	Tyr	Ile	Val	Thr	Met	Arg	Tyr	Phe	Glu	Val	Val	Ile	Leu	Val
1145						1150					1155			
Val	Ile	Ala	Leu	Ser	Ser	Ile	Ala	Leu	Ala	Ala	Glu	Asp	Pro	Val
1160						1165					1170			
Arg	Thr	Asp	Ser	Pro	Arg	Asn	Asn	Ala	Leu	Lys	Tyr	Leu	Asp	Tyr
1175						1180					1185			
Ile	Phe	Thr	Gly	Val	Phe	Thr	Phe	Glu	Met	Val	Ile	Lys	Met	Ile
1190						1195					1200			
Asp	Leu	Gly	Leu	Leu	Leu	His	Pro	Gly	Ala	Tyr	Phe	Arg	Asp	Leu
1205						1210					1215			
Trp	Asn	Ile	Leu	Asp	Phe	Ile	Val	Val	Ser	Gly	Ala	Leu	Val	Ala
1220						1225					1230			
Phe	Ala	Phe	Ser	Gly	Ser	Lys	Gly	Lys	Asp	Ile	Asn	Thr	Ile	Lys
1235						1240					1245			
Ser	Leu	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Lys	Thr	Ile	Lys
1250						1255					1260			
Arg	Leu	Pro	Lys	Leu	Lys	Ala	Val	Phe	Asp	Cys	Val	Val	Asn	Ser
1265						1270					1275			
Leu	Lys	Asn	Val	Leu	Asn	Ile	Leu	Ile	Val	Tyr	Met	Leu	Phe	Met
1280						1285					1290			
Phe	Ile	Phe	Ala	Val	Ile	Ala	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe
1295						1300					1305			

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Phe	Tyr 1310	Cys	Thr	Asp	Glu	Ser 1315	Lys	Glu	Leu	Glu	Arg 1320	Asp	Cys	Arg
Gly	Gln 1325	Tyr	Leu	Asp	Tyr	Glu 1330	Lys	Glu	Glu	Val	Glu 1335	Ala	Gln	Pro
Arg	Gln 1340	Trp	Lys	Lys	Tyr	Asp 1345	Phe	His	Tyr	Asp	Asn 1350	Val	Leu	Trp
Ala	Leu 1355	Leu	Thr	Leu	Phe	Thr 1360	Val	Ser	Thr	Gly	Glu 1365	Gly	Trp	Pro
Met	Val 1370	Leu	Lys	His	Ser	Val 1375	Asp	Ala	Thr	Tyr	Glu 1380	Glu	Gln	Gly
Pro	Ser 1385	Pro	Gly	Tyr	Arg	Met 1390	Glu	Leu	Ser	Ile	Phe 1395	Tyr	Val	Val
Tyr	Phe 1400	Val	Val	Phe	Pro	Phe 1405	Phe	Phe	Val	Asn	Ile 1410	Phe	Val	Ala
Leu	Ile 1415	Ile	Ile	Thr	Phe	Gln 1420	Glu	Gln	Gly	Asp	Lys 1425	Val	Met	Ser
Glu	Cys 1430	Ser	Leu	Glu	Lys	Asn 1435	Glu	Arg	Ala	Cys	Ile 1440	Asp	Phe	Ala
Ile	Ser 1445	Ala	Lys	Pro	Leu	Thr 1450	Arg	Tyr	Met	Pro	Gln 1455	Asn	Arg	Gln
Ser	Phe 1460	Gln	Tyr	Lys	Thr	Trp 1465	Thr	Phe	Val	Val	Ser 1470	Pro	Pro	Phe
Glu	Tyr 1475	Phe	Ile	Met	Ala	Met 1480	Ile	Ala	Leu	Asn	Thr 1485	Val	Val	Leu
Met	Met 1490	Lys	Phe	Tyr	Asp	Ala 1495	Pro	Tyr	Glu	Tyr	Glu 1500	Leu	Met	Leu
Lys	Cys 1505	Leu	Asn	Ile	Val	Phe 1510	Thr	Ser	Met	Phe	Ser 1515	Met	Glu	Cys
Val	Leu 1520	Lys	Ile	Ile	Ala	Phe 1525	Gly	Val	Leu	Asn	Tyr 1530	Phe	Arg	Asp
Ala	Trp 1535	Asn	Val	Phe	Asp	Phe 1540	Val	Thr	Val	Leu	Gly 1545	Ser	Ile	Thr

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Asp	Ile	Leu	Val	Thr	Glu	Ile	Ala	Glu	Thr	Asn	Asn	Phe	Ile	Asn
	1550					1555					1560			
Leu	Ser	Phe	Leu	Arg	Leu	Phe	Arg	Ala	Ala	Arg	Leu	Ile	Lys	Leu
	1565					1570					1575			
Leu	Arg	Gln	Gly	Tyr	Thr	Ile	Arg	Ile	Leu	Leu	Trp	Thr	Phe	Val
	1580					1585					1590			
Gln	Ser	Phe	Lys	Ala	Leu	Pro	Tyr	Val	Cys	Leu	Leu	Ile	Ala	Met
	1595					1600					1605			
Leu	Phe	Phe	Ile	Tyr	Ala	Ile	Ile	Gly	Met	Gln	Val	Phe	Gly	Asn
	1610					1615					1620			
Ile	Ala	Leu	Asp	Asp	Asp	Thr	Ser	Ile	Asn	Arg	His	Asn	Asn	Phe
	1625					1630					1635			
Arg	Thr	Phe	Leu	Gln	Ala	Leu	Met	Leu	Leu	Phe	Arg	Ser	Ala	Thr
	1640					1645					1650			
Gly	Glu	Ala	Trp	His	Glu	Ile	Met	Leu	Ser	Cys	Leu	Ser	Asn	Gln
	1655					1660					1665			
Ala	Cys	Asp	Glu	Gln	Ala	Asn	Ala	Thr	Glu	Cys	Gly	Ser	Asp	Phe
	1670					1675					1680			
Ala	Tyr	Phe	Tyr	Phe	Val	Ser	Phe	Ile	Phe	Leu	Cys	Ser	Phe	Leu
	1685					1690					1695			
Met	Leu	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Glu	Tyr
	1700					1705					1710			
Leu	Thr	Arg	Asp	Ser	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp	Glu
	1715					1720					1725			
Phe	Ile	Arg	Val	Trp	Ala	Glu	Tyr	Asp	Pro	Ala	Ala	Cys	Gly	Arg
	1730					1735					1740			
Ile	Ser	Tyr	Asn	Asp	Met	Phe	Glu	Met	Leu	Lys	His	Met	Ser	Pro
	1745					1750					1755			
Pro	Leu	Gly	Leu	Gly	Lys	Lys	Cys	Pro	Ala	Arg	Val	Ala	Tyr	Lys
	1760					1765					1770			
Arg	Leu	Val	Arg	Met	Asn	Met	Pro	Ile	Ser	Asn	Glu	Asp	Met	Thr

1775		1780	
Val His 1790	Phe Thr Ser Thr	Leu 1795	Met Ala Leu Ile Arg 1800
Glu Ile 1805	Lys Leu Ala Pro	Ala 1810	Gly Thr Lys Gln His 1815
Ala Glu 1820	Leu Arg Lys Glu	Ile 1825	Ser Val Val Trp Ala 1830
Gln Lys 1835	Thr Leu Asp Leu	Leu 1840	Val Pro Pro His Lys 1845
Met Thr 1850	Val Gly Lys Val	Tyr 1855	Ala Ala Leu Met Ile 1860
Tyr Lys 1865	Gln Asn Lys Thr	Thr 1870	Arg Asp Gln Met Gln 1875
Gly Gly 1880	Leu Ser Gln Met	Gly 1885	Pro Val Ser Leu Phe 1890
Lys Ala 1895	Thr Leu Glu Gln	Thr 1900	Gln Pro Ala Val Leu 1905
Arg Val 1910	Phe Leu Arg Gln	Lys 1915	Ser Ser Thr Ser Leu 1920
Gly Ala 1925	Ile Gln Asn Gln	Glu 1930	Ser Gly Ile Lys Glu 1935
Trp Gly 1940	Thr Gln Arg Thr	Gln 1945	Asp Ala Pro His Glu 1950
Pro Leu 1955	Glu Arg Gly His	Ser 1960	Thr Glu Ile Pro Val 1965
Gly Ala 1970	Leu Ala Val Asp	Val 1975	Gln Met Gln Ser Ile 1980
Gly Pro 1985	Asp Gly Glu Pro	Gln 1990	Pro Gly Leu Glu Ser 1995
Ala Ala 2000	Ser Met Pro Arg	Leu 2005	Ala Ala Glu Thr Gln 2010

Asp	Ala	Ser	Pro	Met	Lys	Arg	Ser	Ile	Ser	Thr	Leu	Ala	Gln	Arg
2015						2020					2025			
Pro	Arg	Gly	Thr	His	Leu	Cys	Ser	Thr	Thr	Pro	Asp	Arg	Pro	Pro
2030						2035					2040			
Pro	Ser	Gln	Ala	Ser	Ser	His	His	His	His	His	Arg	Cys	His	Arg
2045						2050					2055			
Arg	Arg	Asp	Arg	Lys	Gln	Arg	Ser	Leu	Glu	Lys	Gly	Pro	Ser	Leu
2060						2065					2070			
Ser	Ala	Asp	Met	Asp	Gly	Ala	Pro	Ser	Ser	Ala	Val	Gly	Pro	Gly
2075						2080					2085			
Leu	Pro	Pro	Gly	Glu	Gly	Pro	Thr	Gly	Cys	Arg	Arg	Glu	Arg	Glu
2090						2095					2100			
Arg	Arg	Gln	Glu	Arg	Gly	Arg	Ser	Gln	Glu	Arg	Arg	Gln	Pro	Ser
2105						2110					2115			
Ser	Ser	Ser	Ser	Glu	Lys	Gln	Arg	Phe	Tyr	Ser	Cys	Asp	Arg	Phe
2120						2125					2130			
Gly	Gly	Arg	Glu	Pro	Pro	Lys	Pro	Lys	Pro	Ser	Leu	Ser	Ser	His
2135						2140					2145			
Pro	Thr	Ser	Pro	Thr	Ala	Gly	Gln	Glu	Pro	Gly	Pro	His	Pro	Gln
2150						2155					2160			
Gly	Ser	Gly	Ser	Val	Asn	Gly	Ser	Pro	Leu	Leu	Ser	Thr	Ser	Gly
2165						2170					2175			
Ala	Ser	Thr	Pro	Gly	Arg	Gly	Gly	Arg	Arg	Gln	Leu	Pro	Gln	Thr
2180						2185					2190			
Pro	Leu	Thr	Pro	Arg	Pro	Ser	Ile	Thr	Tyr	Lys	Thr	Ala	Asn	Ser
2195						2200					2205			
Ser	Pro	Ile	His	Phe	Ala	Gly	Ala	Gln	Thr	Ser	Leu	Pro	Ala	Phe
2210						2215					2220			
Ser	Pro	Gly	Arg	Leu	Ser	Arg	Gly	Leu	Ser	Glu	His	Asn	Ala	Leu
2225						2230					2235			
Leu	Gln	Arg	Asp	Pro	Leu	Ser	Gln	Pro	Leu	Ala	Pro	Gly	Ser	Arg
2240						2245					2250			

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Ile Gly Ser Asp Pro Tyr Leu Gly Gln Arg Leu Asp Ser Glu Ala
2255 2260 2265

Ser Val His Ala Leu Pro Glu Asp Thr Leu Thr Phe Glu Glu Ala
2270 2275 2280

Val Ala Thr Asn Ser Gly Arg Ser Ser Arg Thr Ser Tyr Val Ser
2285 2290 2295

Ser Leu Thr Ser Gln Ser His Pro Leu Arg Arg Val Pro Asn Gly
2300 2305 2310

Tyr His Cys Thr Leu Gly Leu Ser Ser Gly Gly Arg Ala Arg His
2315 2320 2325

Ser Tyr His His Pro Asp Gln Asp His Trp Cys
2330 2335

<210> 9

<211> 2505

<212> PRT

<213> Homo sapiens

<400> 9

Met Ala Arg Phe Gly Asp Glu Met Pro Ala Arg Tyr Gly Gly Gly Gly
1 5 10 15

Ser Gly Ala Ala Ala Gly Val Val Val Gly Ser Gly Gly Gly Arg Gly
20 25 30

Ala Gly Gly Ser Arg Gln Gly Gly Gln Pro Gly Ala Gln Arg Met Tyr
35 40 45

Lys Gln Ser Met Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro
50 55 60

Ile Pro Val Arg Gln Asn Cys Leu Thr Val Asn Arg Ser Leu Phe Leu
65 70 75 80

Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys Lys Ile Thr Glu
85 90 95

Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys
100 105 110

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Ile Val Leu Ala Leu Glu Gln His Leu Pro Asp Asp Asp Lys Thr Pro
115 120 125

Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe
130 135 140

Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Ala Phe His
145 150 155 160

Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val
165 170 175

Val Leu Thr Gly Ile Leu Ala Thr Val Gly Thr Glu Phe Asp Leu Arg
180 185 190

Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly
195 200 205

Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Ile
210 215 220

Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Ile Phe
225 230 235 240

Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe His Thr Thr Cys
245 250 255

Phe Glu Glu Gly Thr Asp Asp Ile Gln Gly Glu Ser Pro Ala Pro Cys
260 265 270

Gly Thr Glu Glu Pro Ala Arg Thr Cys Pro Asn Gly Thr Lys Cys Gln
275 280 285

Pro Tyr Trp Glu Gly Pro Asn Asn Gly Ile Thr Gln Phe Asp Asn Ile
290 295 300

Leu Phe Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp
305 310 315 320

Thr Asp Leu Leu Tyr Asn Ser Asn Asp Ala Ser Gly Asn Thr Trp Asn
325 330 335

Trp Leu Tyr Phe Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Met Leu
340 345 350

Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu

355

360

365

Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln
 370 375 380

Ile Glu Arg Glu Leu Asn Gly Tyr Met Glu Trp Ile Ser Lys Ala Glu
 385 390 395 400

Glu Val Ile Leu Ala Glu Asp Glu Thr Asp Gly Glu Gln Arg His Pro
 405 410 415

Phe Asp Gly Ala Leu Arg Arg Thr Thr Ile Lys Lys Ser Lys Thr Asp
 420 425 430

Leu Leu Asn Pro Glu Glu Ala Glu Asp Gln Leu Ala Asp Ile Ala Ser
 435 440 445

Val Gly Ser Pro Phe Ala Arg Ala Ser Ile Lys Ser Ala Lys Leu Glu
 450 455 460

Asn Ser Thr Phe Phe His Lys Lys Glu Arg Arg Met Arg Phe Tyr Ile
 465 470 475 480

Arg Arg Met Val Lys Thr Gln Ala Phe Tyr Trp Thr Val Leu Ser Leu
 485 490 495

Val Ala Leu Asn Thr Leu Cys Val Ala Ile Val His Tyr Asn Gln Pro
 500 505 510

Glu Trp Leu Ser Asp Phe Leu Tyr Tyr Ala Glu Phe Ile Phe Leu Gly
 515 520 525

Leu Phe Met Ser Glu Met Phe Ile Lys Met Tyr Gly Leu Gly Thr Arg
 530 535 540

Pro Tyr Phe His Ser Ser Phe Asn Cys Phe Asp Cys Gly Val Ile Ile
 545 550 555 560

Gly Ser Ile Phe Glu Val Ile Trp Ala Val Ile Lys Pro Gly Thr Ser
 565 570 575

Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys
 580 585 590

Val Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Leu
 595 600 605

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Asn Ser Met Lys Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe
610 615 620

Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe
625 630 635 640

Asn Phe Asp Glu Gly Thr Pro Pro Thr Asn Phe Asp Thr Phe Pro Ala
645 650 655

Ala Ile Met Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu
660 665 670

Val Met Tyr Asp Gly Ile Lys Ser Gln Gly Gly Val Gln Gly Gly Met
675 680 685

Val Phe Ser Ile Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr
690 695 700

Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala
705 710 715 720

Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu Glu Ala Ala Asn Gln
725 730 735

Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser Pro Leu
740 745 750

Ser Ala Ala Asn Met Ser Ile Ala Val Lys Glu Gln Gln Lys Asn Gln
755 760 765

Lys Pro Ala Lys Ser Val Trp Glu Gln Arg Thr Ser Glu Met Arg Lys
770 775 780

Gln Asn Leu Leu Ala Ser Arg Glu Ala Leu Tyr Asn Glu Met Asp Pro
785 790 795 800

Asp Glu Arg Trp Lys Ala Ala Tyr Thr Arg His Leu Arg Pro Asp Met
805 810 815

Lys Thr His Leu Asp Arg Pro Leu Val Val Asp Pro Gln Glu Asn Arg
820 825 830

Asn Asn Asn Thr Asn Lys Ser Arg Ala Ala Glu Pro Thr Val Asp Gln
835 840 845

Arg Leu Gly Gln Gln Arg Ala Glu Asp Phe Leu Arg Lys Gln Ala Arg
850 855 860

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Tyr His Asp Arg Ala Arg Asp Pro Ser Gly Ser Ala Gly Leu Asp Ala
 865 870 875 880
 Arg Arg Pro Trp Ala Gly Ser Gln Glu Ala Glu Leu Ser Arg Glu Gly
 885 890 895
 Pro Tyr Gly Arg Glu Ser Asp His His Ala Arg Glu Gly Ser Leu Glu
 900 905 910
 Gln Pro Gly Phe Trp Glu Gly Glu Ala Glu Arg Gly Lys Ala Gly Asp
 915 920 925
 Pro His Arg Arg His Val His Arg Gln Gly Gly Ser Arg Glu Ser Arg
 930 935 940
 Ser Gly Ser Pro Arg Thr Gly Ala Asp Gly Glu His Arg Arg His Arg
 945 950 955 960
 Ala His Arg Arg Pro Gly Glu Glu Gly Pro Glu Asp Lys Ala Glu Arg
 965 970 975
 Arg Ala Arg His Arg Glu Gly Ser Arg Pro Ala Arg Gly Gly Glu Gly
 980 985 990
 Glu Gly Glu Gly Pro Asp Gly Gly Glu Arg Arg Arg Arg His Arg His
 995 1000 1005
 Gly Ala Pro Ala Thr Tyr Glu Gly Asp Ala Arg Arg Glu Asp Lys
 1010 1015 1020
 Glu Arg Arg His Arg Arg Arg Lys Glu Asn Gln Gly Ser Gly Val
 1025 1030 1035
 Pro Val Ser Gly Pro Asn Leu Ser Thr Thr Arg Pro Ile Gln Gln
 1040 1045 1050
 Asp Leu Gly Arg Gln Asp Pro Pro Leu Ala Glu Asp Ile Asp Asn
 1055 1060 1065
 Met Lys Asn Asn Lys Leu Ala Thr Ala Glu Ser Ala Ala Pro His
 1070 1075 1080
 Gly Ser Leu Gly His Ala Gly Leu Pro Gln Ser Pro Ala Lys Met
 1085 1090 1095
 Gly Asn Ser Thr Asp Pro Gly Pro Met Leu Ala Ile Pro Ala Met
 1100 1105 1110

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Ala Thr	Asn Pro Gln Asn	Ala	Ala Ser Arg Arg	Thr	Pro Asn Asn
1115		1120		1125	
Pro Gly	Asn Pro Ser Asn	Pro	Gly Pro Pro Lys	Thr	Pro Glu Asn
1130		1135		1140	
Ser Leu	Ile Val Thr Asn	Pro	Ser Gly Thr Gln	Thr	Asn Ser Ala
1145		1150		1155	
Lys Thr	Ala Arg Lys Pro	Asp	His Thr Thr Val	Asp	Ile Pro Pro
1160		1165		1170	
Ala Cys	Pro Pro Pro Leu	Asn	His Thr Val Val	Gln	Val Asn Lys
1175		1180		1185	
Asn Ala	Asn Pro Asp Pro	Leu	Pro Lys Lys Glu	Glu	Glu Lys Lys
1190		1195		1200	
Glu Glu	Glu Glu Asp Asp	Arg	Gly Glu Asp Gly	Pro	Lys Pro Met
1205		1210		1215	
Pro Pro	Tyr Ser Ser Met	Phe	Ile Leu Ser Thr	Thr	Asn Pro Leu
1220		1225		1230	
Arg Arg	Leu Cys His Tyr	Ile	Leu Asn Leu Arg	Tyr	Phe Glu Met
1235		1240		1245	
Cys Ile	Leu Met Val Ile	Ala	Met Ser Ser Ile	Ala	Leu Ala Ala
1250		1255		1260	
Glu Asp	Pro Val Gln Pro	Asn	Ala Pro Arg Asn	Asn	Val Leu Arg
1265		1270		1275	
Tyr Phe	Asp Tyr Val Phe	Thr	Gly Val Phe Thr	Phe	Glu Met Val
1280		1285		1290	
Ile Lys	Met Ile Asp Leu	Gly	Leu Val Leu His	Gln	Gly Ala Tyr
1295		1300		1305	
Phe Arg	Asp Leu Trp Asn	Ile	Leu Asp Phe Ile	Val	Val Ser Gly
1310		1315		1320	
Ala Leu	Val Ala Phe Ala	Phe	Thr Gly Asn Ser	Lys	Gly Lys Asp
1325		1330		1335	
Ile Asn	Thr Ile Lys Ser	Leu	Arg Val Leu Arg	Val	Leu Arg Pro

1340

1345

Leu	Lys	Thr	Ile	Lys	Arg	Leu	Pro	Lys	Leu	Lys	Ala	Val	Phe	Asp
1355						1360					1365			
Cys	Val	Val	Asn	Ser	Leu	Lys	Asn	Val	Phe	Asn	Ile	Leu	Ile	Val
1370						1375					1380			
Tyr	Met	Leu	Phe	Met	Phe	Ile	Phe	Ala	Val	Val	Ala	Val	Gln	Leu
1385						1390					1395			
Phe	Lys	Gly	Lys	Phe	Phe	His	Cys	Thr	Asp	Glu	Ser	Lys	Glu	Phe
1400						1405					1410			
Glu	Lys	Asp	Cys	Arg	Gly	Lys	Tyr	Leu	Leu	Tyr	Glu	Lys	Asn	Glu
1415						1420					1425			
Val	Lys	Ala	Arg	Asp	Arg	Glu	Trp	Lys	Lys	Tyr	Glu	Phe	His	Tyr
1430						1435					1440			
Asp	Asn	Val	Leu	Trp	Ala	Leu	Leu	Thr	Leu	Phe	Thr	Val	Ser	Thr
1445						1450					1455			
Gly	Glu	Gly	Trp	Pro	Gln	Val	Leu	Lys	His	Ser	Val	Asp	Ala	Thr
1460						1465					1470			
Phe	Glu	Asn	Gln	Gly	Pro	Ser	Pro	Gly	Tyr	Arg	Met	Glu	Met	Ser
1475						1480					1485			
Ile	Phe	Tyr	Val	Val	Tyr	Phe	Val	Val	Phe	Pro	Phe	Phe	Phe	Val
1490						1495					1500			
Asn	Ile	Phe	Val	Ala	Leu	Ile	Ile	Ile	Thr	Phe	Gln	Glu	Gln	Gly
1505						1510					1515			
Asp	Lys	Met	Met	Glu	Glu	Tyr	Ser	Leu	Glu	Lys	Asn	Glu	Arg	Ala
1520						1525					1530			
Cys	Ile	Asp	Phe	Ala	Ile	Ser	Ala	Lys	Pro	Leu	Thr	Arg	His	Met
1535						1540					1545			
Pro	Gln	Asn	Lys	Gln	Ser	Phe	Gln	Tyr	Arg	Met	Trp	Gln	Phe	Val
1550						1555					1560			
Val	Ser	Pro	Pro	Phe	Glu	Tyr	Thr	Ile	Met	Ala	Met	Ile	Ala	Leu
1565						1570					1575			

Asn Thr Ile Val Leu Met Met Lys Phe Tyr Gly Ala Ser Val Ala
 1580 1585 1590
 Tyr Glu Asn Ala Leu Arg Val Phe Asn Ile Val Phe Thr Ser Leu
 1595 1600 1605
 Phe Ser Leu Glu Cys Val Leu Lys Val Met Ala Phe Gly Ile Leu
 1610 1615 1620
 Asn Tyr Phe Arg Asp Ala Trp Asn Ile Phe Asp Phe Val Thr Val
 1625 1630 1635
 Leu Gly Ser Ile Thr Asp Ile Leu Val Thr Glu Phe Gly Asn Asn
 1640 1645 1650
 Phe Ile Asn Leu Ser Phe Leu Arg Leu Phe Arg Ala Ala Arg Leu
 1655 1660 1665
 Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg Ile Leu Leu Trp
 1670 1675 1680
 Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr Val Cys Leu Leu
 1685 1690 1695
 Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met Gln Val
 1700 1705 1710
 Phe Gly Asn Ile Gly Ile Asp Val Glu Asp Glu Asp Ser Asp Glu
 1715 1720 1725
 Asp Glu Phe Gln Ile Thr Glu His Asn Asn Phe Arg Thr Phe Phe
 1730 1735 1740
 Gln Ala Leu Met Leu Leu Phe Arg Ser Ala Thr Gly Glu Ala Trp
 1745 1750 1755
 His Asn Ile Met Leu Ser Cys Leu Ser Gly Lys Pro Cys Asp Lys
 1760 1765 1770
 Asn Ser Gly Ile Leu Thr Arg Glu Cys Gly Asn Glu Phe Ala Tyr
 1775 1780 1785
 Phe Tyr Phe Val Ser Phe Ile Phe Leu Cys Ser Phe Leu Met Leu
 1790 1795 1800
 Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu Thr
 1805 1810 1815

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Arg	Asp	Ser	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp	Glu	Tyr	Val
	1820					1825					1830			
Arg	Val	Trp	Ala	Glu	Tyr	Asp	Pro	Ala	Ala	Trp	Gly	Arg	Met	Pro
	1835					1840					1845			
Tyr	Leu	Asp	Met	Tyr	Gln	Met	Leu	Arg	His	Met	Ser	Pro	Pro	Leu
	1850					1855					1860			
Gly	Leu	Gly	Lys	Lys	Cys	Pro	Ala	Arg	Val	Ala	Tyr	Lys	Arg	Leu
	1865					1870					1875			
Leu	Arg	Met	Asp	Leu	Pro	Val	Ala	Asp	Asp	Asn	Thr	Val	His	Phe
	1880					1885					1890			
Asn	Ser	Thr	Leu	Met	Ala	Leu	Ile	Arg	Thr	Ala	Leu	Asp	Ile	Lys
	1895					1900					1905			
Ile	Ala	Lys	Gly	Gly	Ala	Asp	Lys	Gln	Gln	Met	Asp	Ala	Glu	Leu
	1910					1915					1920			
Arg	Lys	Glu	Met	Met	Ala	Ile	Trp	Pro	Asn	Leu	Ser	Gln	Lys	Thr
	1925					1930					1935			
Leu	Asp	Leu	Leu	Val	Thr	Pro	His	Lys	Ser	Thr	Asp	Leu	Thr	Val
	1940					1945					1950			
Gly	Lys	Ile	Tyr	Ala	Ala	Met	Met	Ile	Met	Glu	Tyr	Tyr	Arg	Gln
	1955					1960					1965			
Ser	Lys	Ala	Lys	Lys	Leu	Gln	Ala	Met	Arg	Glu	Glu	Gln	Asp	Arg
	1970					1975					1980			
Thr	Pro	Leu	Met	Phe	Gln	Arg	Met	Glu	Pro	Pro	Ser	Pro	Thr	Gln
	1985					1990					1995			
Glu	Gly	Gly	Pro	Gly	Gln	Asn	Ala	Leu	Pro	Ser	Thr	Gln	Leu	Asp
	2000					2005					2010			
Pro	Gly	Gly	Ala	Leu	Met	Ala	His	Glu	Ser	Gly	Leu	Lys	Glu	Ser
	2015					2020					2025			
Pro	Ser	Trp	Val	Thr	Gln	Arg	Ala	Gln	Glu	Met	Phe	Gln	Lys	Thr
	2030					2035					2040			
Gly	Thr	Trp	Ser	Pro	Glu	Gln	Gly	Pro	Pro	Thr	Asp	Met	Pro	Asn
	2045					2050					2055			

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Ser	Gln	Pro	Asn	Ser	Gln	Ser	Val	Glu	Met	Arg	Glu	Met	Gly	Arg
2060						2065					2070			
Asp	Gly	Tyr	Ser	Asp	Ser	Glu	His	Tyr	Leu	Pro	Met	Glu	Gly	Gln
2075						2080					2085			
Gly	Arg	Ala	Ala	Ser	Met	Pro	Arg	Leu	Pro	Ala	Glu	Asn	Gln	Arg
2090						2095					2100			
Arg	Arg	Gly	Arg	Pro	Arg	Gly	Asn	Asn	Leu	Ser	Thr	Ile	Ser	Asp
2105						2110					2115			
Thr	Ser	Pro	Met	Lys	Arg	Ser	Ala	Ser	Val	Leu	Gly	Pro	Lys	Ala
2120						2125					2130			
Arg	Arg	Leu	Asp	Asp	Tyr	Ser	Leu	Glu	Arg	Val	Pro	Pro	Glu	Glu
2135						2140					2145			
Asn	Gln	Arg	His	His	Gln	Arg	Arg	Arg	Asp	Arg	Ser	His	Arg	Ala
2150						2155					2160			
Ser	Glu	Arg	Ser	Leu	Gly	Arg	Tyr	Thr	Asp	Val	Asp	Thr	Gly	Leu
2165						2170					2175			
Gly	Thr	Asp	Leu	Ser	Met	Thr	Thr	Gln	Ser	Gly	Asp	Leu	Pro	Ser
2180						2185					2190			
Lys	Glu	Arg	Asp	Gln	Glu	Arg	Gly	Arg	Pro	Lys	Asp	Arg	Lys	His
2195						2200					2205			
Arg	Gln	His	His	His	His	His	His	His	His	His	His	Pro	Pro	Pro
2210						2215					2220			
Pro	Asp	Lys	Asp	Arg	Tyr	Ala	Gln	Glu	Arg	Pro	Asp	His	Gly	Arg
2225						2230					2235			
Ala	Arg	Ala	Arg	Asp	Gln	Arg	Trp	Ser	Arg	Ser	Pro	Ser	Glu	Gly
2240						2245					2250			
Arg	Glu	His	Met	Ala	His	Arg	Gln	Gly	Ser	Ser	Ser	Val	Ser	Gly
2255						2260					2265			
Ser	Pro	Ala	Pro	Ser	Thr	Ser	Gly	Thr	Ser	Thr	Pro	Arg	Arg	Gly
2270						2275					2280			
Arg	Arg	Gln	Leu	Pro	Gln	Thr	Pro	Ser	Thr	Pro	Arg	Pro	His	Val

2285

2290

Ser Tyr Ser Pro Val Ile Arg Lys Ala Gly Gly Ser Gly Pro Pro
2300 2305 2310

Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Ala Val Ala Arg
2315 2320 2325

Pro Gly Arg Ala Ala Thr Ser Gly Pro Arg Arg Tyr Pro Gly Pro
2330 2335 2340

Thr Ala Glu Pro Leu Ala Gly Asp Arg Pro Pro Thr Gly Gly His
2345 2350 2355

Ser Ser Gly Arg Ser Pro Arg Met Glu Arg Arg Val Pro Gly Pro
2360 2365 2370

Ala Arg Ser Glu Ser Pro Arg Ala Cys Arg His Gly Gly Ala Arg
2375 2380 2385

Trp Pro Ala Ser Gly Pro His Val Ser Glu Gly Pro Pro Gly Pro
2390 2395 2400

Arg His His Gly Tyr Tyr Arg Gly Ser Asp Tyr Asp Glu Ala Asp
2405 2410 2415

Gly Pro Gly Ser Gly Gly Gly Glu Glu Ala Met Ala Gly Ala Tyr
2420 2425 2430

Asp Ala Pro Pro Pro Val Arg His Ala Ser Ser Gly Ala Thr Gly
2435 2440 2445

Arg Ser Pro Arg Thr Pro Arg Ala Ser Gly Pro Ala Cys Ala Ser
2450 2455 2460

Pro Ser Arg His Gly Arg Arg Leu Pro Asn Gly Tyr Tyr Pro Ala
2465 2470 2475

His Gly Leu Ala Arg Pro Arg Gly Pro Gly Ser Arg Lys Gly Leu
2480 2485 2490

His Glu Pro Tyr Ser Glu Ser Asp Asp Asp Trp Cys
2495 2500 2505

<210> 10

<211> 2261

<212> PRT

<213> Homo sapiens

<400> 10

Met Ala Arg Phe Gly Asp Glu Met Pro Ala Arg Tyr Gly Gly Gly Gly
 1 5 10 15

Ser Gly Ala Ala Ala Gly Val Val Val Gly Ser Gly Gly Gly Arg Gly
 20 25 30

Ala Gly Gly Ser Arg Gln Gly Gly Gln Pro Gly Ala Gln Arg Met Tyr
 35 40 45

Lys Gln Ser Met Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro
 50 55 60

Ile Pro Val Arg Gln Asn Cys Leu Thr Val Asn Arg Ser Leu Phe Leu
 65 70 75 80

Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys Lys Ile Thr Glu
 85 90 95

Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys
 100 105 110

Ile Val Leu Ala Leu Glu Gln His Leu Pro Asp Asp Asp Lys Thr Pro
 115 120 125

Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe
 130 135 140

Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Ala Phe His
 145 150 155 160

Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val
 165 170 175

Val Leu Thr Gly Ile Leu Ala Thr Val Gly Thr Glu Phe Asp Leu Arg
 180 185 190

Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly
 195 200 205

Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Ile
 210 215 220

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Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Ile Phe
225 230 235 240

Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe His Thr Thr Cys
245 250 255

Phe Glu Glu Gly Thr Asp Asp Ile Gln Gly Glu Ser Pro Ala Pro Cys
260 265 270

Gly Thr Glu Glu Pro Ala Arg Thr Cys Pro Asn Gly Thr Lys Cys Gln
275 280 285

Pro Tyr Trp Glu Gly Pro Asn Asn Gly Ile Thr Gln Phe Asp Asn Ile
290 295 300

Leu Phe Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp
305 310 315 320

Thr Asp Leu Leu Tyr Asn Ser Asn Asp Ala Ser Gly Asn Thr Trp Asn
325 330 335

Trp Leu Tyr Phe Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Met Leu
340 345 350

Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu
355 360 365

Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln
370 375 380

Ile Glu Arg Glu Leu Asn Gly Tyr Met Glu Trp Ile Ser Lys Ala Glu
385 390 395 400

Glu Val Ile Leu Ala Glu Asp Glu Thr Asp Gly Glu Gln Arg His Pro
405 410 415

Phe Asp Gly Ala Leu Arg Arg Thr Thr Ile Lys Lys Ser Lys Thr Asp
420 425 430

Leu Leu Asn Pro Glu Glu Ala Glu Asp Gln Leu Ala Asp Ile Ala Ser
435 440 445

Val Gly Ser Pro Phe Ala Arg Ala Ser Ile Lys Ser Ala Lys Leu Glu
450 455 460

Asn Ser Thr Phe Phe His Lys Lys Glu Arg Arg Met Arg Phe Tyr Ile
465 470 475 480

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Arg Arg Met Val Lys Thr Gln Ala Phe Tyr Trp Thr Val Leu Ser Leu
485 490 495

Val Ala Leu Asn Thr Leu Cys Val Ala Ile Val His Tyr Asn Gln Pro
500 505 510

Glu Trp Leu Ser Asp Phe Leu Tyr Tyr Ala Glu Phe Ile Phe Leu Gly
515 520 525

Leu Phe Met Ser Glu Met Phe Ile Lys Met Tyr Gly Leu Gly Thr Arg
530 535 540

Pro Tyr Phe His Ser Ser Phe Asn Cys Phe Asp Cys Gly Val Ile Ile
545 550 555 560

Gly Ser Ile Phe Glu Val Ile Trp Ala Val Ile Lys Pro Gly Thr Ser
565 570 575

Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys
580 585 590

Val Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Leu
595 600 605

Asn Ser Met Lys Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe
610 615 620

Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe
625 630 635 640

Asn Phe Asp Glu Gly Thr Pro Pro Thr Asn Phe Asp Thr Phe Pro Ala
645 650 655

Ala Ile Met Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu
660 665 670

Val Met Tyr Asp Gly Ile Lys Ser Gln Gly Gly Val Gln Gly Gly Met
675 680 685

Val Phe Ser Ile Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr
690 695 700

Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala
705 710 715 720

Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu Ala Ala Asn Gln

Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser Pro Leu
740 745 750

Ser Ala Ala Asn Met Ser Ile Ala Val Lys Glu Gln Gln Lys Asn Gln
755 760 765

Lys Pro Ala Lys Ser Val Trp Glu Gln Arg Thr Ser Glu Met Arg Lys
770 775 780

Gln Asn Leu Leu Ala Ser Arg Glu Ala Leu Tyr Asn Glu Met Asp Pro
785 790 795 800

Asp Glu Arg Trp Lys Ala Ala Tyr Thr Arg His Leu Arg Pro Asp Met
805 810 815

Lys Thr His Leu Asp Arg Pro Leu Val Val Asp Pro Gln Glu Asn Arg
820 825 830

Asn Asn Asn Thr Asn Lys Ser Arg Ala Ala Glu Pro Thr Val Asp Gln
835 840 845

Arg Leu Gly Gln Gln Arg Ala Glu Asp Phe Leu Arg Lys Gln Ala Arg
850 855 860

Tyr His Asp Arg Ala Arg Asp Pro Ser Gly Ser Ala Gly Leu Asp Ala
865 870 875 880

Arg Arg Pro Trp Ala Gly Ser Gln Glu Ala Glu Leu Ser Arg Glu Gly
885 890 895

Pro Tyr Gly Arg Glu Ser Asp His His Ala Arg Glu Gly Ser Leu Glu
900 905 910

Gln Pro Gly Phe Trp Glu Gly Glu Ala Glu Arg Gly Lys Ala Gly Asp
915 920 925

Pro His Arg Arg His Val His Arg Gln Gly Gly Ser Arg Glu Ser Arg
930 935 940

Ser Gly Ser Pro Arg Thr Gly Ala Asp Gly Glu His Arg Arg His Arg
945 950 955 960

Ala His Arg Arg Pro Gly Glu Glu Gly Pro Glu Asp Lys Ala Glu Arg
965 970 975

Arg Ala Arg His Arg Glu Gly Ser Arg Pro Ala Arg Gly Gly Glu Gly
 980 985 990

Glu Gly Glu Gly Pro Asp Gly Gly Glu Arg Arg Arg Arg His Arg His
 995 1000 1005

Gly Ala Pro Ala Thr Tyr Glu Gly Asp Ala Arg Arg Glu Asp Lys
 1010 1015 1020

Glu Arg Arg His Arg Arg Arg Lys Glu Asn Gln Gly Ser Gly Val
 1025 1030 1035

Pro Val Ser Gly Pro Asn Leu Ser Thr Thr Arg Pro Ile Gln Gln
 1040 1045 1050

Asp Leu Gly Arg Gln Asp Pro Pro Leu Ala Glu Asp Ile Asp Asn
 1055 1060 1065

Met Lys Asn Asn Lys Leu Ala Thr Ala Glu Ser Ala Ala Pro His
 1070 1075 1080

Gly Ser Leu Gly His Ala Gly Leu Pro Gln Ser Pro Ala Lys Met
 1085 1090 1095

Gly Asn Ser Thr Asp Pro Gly Pro Met Leu Ala Ile Pro Ala Met
 1100 1105 1110

Ala Thr Asn Pro Gln Asn Ala Ala Ser Arg Arg Thr Pro Asn Asn
 1115 1120 1125

Pro Gly Asn Pro Ser Asn Pro Gly Pro Pro Lys Thr Pro Glu Asn
 1130 1135 1140

Ser Leu Ile Val Thr Asn Pro Ser Gly Thr Gln Thr Asn Ser Ala
 1145 1150 1155

Lys Thr Ala Arg Lys Pro Asp His Thr Thr Val Asp Ile Pro Pro
 1160 1165 1170

Ala Cys Pro Pro Pro Leu Asn His Thr Val Val Gln Val Asn Lys
 1175 1180 1185

Asn Ala Asn Pro Asp Pro Leu Pro Lys Lys Glu Glu Glu Lys Lys
 1190 1195 1200

Glu Glu Glu Glu Asp Asp Arg Gly Glu Asp Gly Pro Lys Pro Met
 1205 1210 1215

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Pro	Pro	Tyr	Ser	Ser	Met	Phe	Ile	Leu	Ser	Thr	Thr	Asn	Pro	Leu
	1220					1225					1230			
Arg	Arg	Leu	Cys	His	Tyr	Ile	Leu	Asn	Leu	Arg	Tyr	Phe	Glu	Met
	1235					1240					1245			
Cys	Ile	Leu	Met	Val	Ile	Ala	Met	Ser	Ser	Ile	Ala	Leu	Ala	Ala
	1250					1255					1260			
Glu	Asp	Pro	Val	Gln	Pro	Asn	Ala	Pro	Arg	Asn	Asn	Val	Leu	Arg
	1265					1270					1275			
Tyr	Phe	Asp	Tyr	Val	Phe	Thr	Gly	Val	Phe	Thr	Phe	Glu	Met	Val
	1280					1285					1290			
Ile	Lys	Met	Ile	Asp	Leu	Gly	Leu	Val	Leu	His	Gln	Gly	Ala	Tyr
	1295					1300					1305			
Phe	Arg	Asp	Leu	Trp	Asn	Ile	Leu	Asp	Phe	Ile	Val	Val	Ser	Gly
	1310					1315					1320			
Ala	Leu	Val	Ala	Phe	Ala	Phe	Thr	Gly	Asn	Ser	Lys	Gly	Lys	Asp
	1325					1330					1335			
Ile	Asn	Thr	Ile	Lys	Ser	Leu	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro
	1340					1345					1350			
Leu	Lys	Thr	Ile	Lys	Arg	Leu	Pro	Lys	Leu	Lys	Ala	Val	Phe	Asp
	1355					1360					1365			
Cys	Val	Val	Asn	Ser	Leu	Lys	Asn	Val	Phe	Asn	Ile	Leu	Ile	Val
	1370					1375					1380			
Tyr	Met	Leu	Phe	Met	Phe	Ile	Phe	Ala	Val	Val	Ala	Val	Gln	Leu
	1385					1390					1395			
Phe	Lys	Gly	Lys	Phe	Phe	His	Cys	Thr	Asp	Glu	Ser	Lys	Glu	Phe
	1400					1405					1410			
Glu	Lys	Asp	Cys	Arg	Gly	Lys	Tyr	Leu	Leu	Tyr	Glu	Lys	Asn	Glu
	1415					1420					1425			
Val	Lys	Ala	Arg	Asp	Arg	Glu	Trp	Lys	Lys	Tyr	Glu	Phe	His	Tyr
	1430					1435					1440			
Asp	Asn	Val	Leu	Trp	Ala	Leu	Leu	Thr	Leu	Phe	Thr	Val	Ser	Thr
	1445					1450					1455			

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Gly	Glu	Gly	Trp	Pro	Gln	Val	Leu	Lys	His	Ser	Val	Asp	Ala	Thr
1460						1465					1470			
Phe	Glu	Asn	Gln	Gly	Pro	Ser	Pro	Gly	Tyr	Arg	Met	Glu	Met	Ser
1475						1480					1485			
Ile	Phe	Tyr	Val	Val	Tyr	Phe	Val	Val	Phe	Pro	Phe	Phe	Phe	Val
1490						1495					1500			
Asn	Ile	Phe	Val	Ala	Leu	Ile	Ile	Ile	Thr	Phe	Gln	Glu	Gln	Gly
1505						1510					1515			
Asp	Lys	Met	Met	Glu	Glu	Tyr	Ser	Leu	Glu	Lys	Asn	Glu	Arg	Ala
1520						1525					1530			
Cys	Ile	Asp	Phe	Ala	Ile	Ser	Ala	Lys	Pro	Leu	Thr	Arg	His	Met
1535						1540					1545			
Pro	Gln	Asn	Lys	Gln	Ser	Phe	Gln	Tyr	Arg	Met	Trp	Gln	Phe	Val
1550						1555					1560			
Val	Ser	Pro	Pro	Phe	Glu	Tyr	Thr	Ile	Met	Ala	Met	Ile	Ala	Leu
1565						1570					1575			
Asn	Thr	Ile	Val	Leu	Met	Met	Lys	Phe	Tyr	Gly	Ala	Ser	Val	Ala
1580						1585					1590			
Tyr	Glu	Asn	Ala	Leu	Arg	Val	Phe	Asn	Ile	Val	Phe	Thr	Ser	Leu
1595						1600					1605			
Phe	Ser	Leu	Glu	Cys	Val	Leu	Lys	Val	Met	Ala	Phe	Gly	Ile	Leu
1610						1615					1620			
Asn	Tyr	Phe	Arg	Asp	Ala	Trp	Asn	Ile	Phe	Asp	Phe	Val	Thr	Val
1625						1630					1635			
Leu	Gly	Ser	Ile	Thr	Asp	Ile	Leu	Val	Thr	Glu	Phe	Gly	Asn	Asn
1640						1645					1650			
Phe	Ile	Asn	Leu	Ser	Phe	Leu	Arg	Leu	Phe	Arg	Ala	Ala	Arg	Leu
1655						1660					1665			
Ile	Lys	Leu	Leu	Arg	Gln	Gly	Tyr	Thr	Ile	Arg	Ile	Leu	Leu	Trp
1670						1675					1680			
Thr	Phe	Val	Gln	Ser	Phe	Lys	Ala	Leu	Pro	Tyr	Val	Cys	Leu	Leu

1685	Ile Ala Met Leu Phe Phe	1690	Ile Tyr Ala Ile Ile Gly Met Gln Val
1700		1705	
Phe Gly Asn Ile Gly Ile	1715	Asp Val Glu Asp Glu Asp Ser Asp Glu	1725
1730	Asp Glu Phe Gln Ile Thr	1735	Glu His Asn Asn Phe Arg Thr Phe Phe
1745	Gln Ala Leu Met Leu Leu	1750	Phe Arg Ser Ala Thr Gly Glu Ala Trp
1760	His Asn Ile Met Leu Ser	1765	Cys Leu Ser Gly Lys Pro Cys Asp Lys
1775	Asn Ser Gly Ile Leu Thr	1780	Arg Glu Cys Gly Asn Glu Phe Ala Tyr
1790	Phe Tyr Phe Val Ser Phe	1795	Ile Phe Leu Cys Ser Phe Leu Met Leu
1805	Asn Leu Phe Val Ala Val	1810	Ile Met Asp Asn Phe Glu Tyr Leu Thr
1820	Arg Asp Ser Ser Ile Leu	1825	Gly Pro His His Leu Asp Glu Tyr Val
1835	Arg Val Trp Ala Glu Tyr	1840	Asp Pro Ala Ala Cys Gly Arg Ile His
1850	Tyr Lys Asp Met Tyr Ser	1855	Leu Leu Arg Val Ile Ser Pro Pro Leu
1865	Gly Leu Gly Lys Lys Cys	1870	Pro His Arg Val Ala Cys Lys Arg Leu
1880	Leu Arg Met Asp Leu Pro	1885	Val Ala Asp Asp Asn Thr Val His Phe
1895	Asn Ser Thr Leu Met Ala	1900	Leu Ile Arg Thr Ala Leu Asp Ile Lys
1910	Ile Ala Lys Gly Gly Ala	1915	Asp Lys Gln Gln Met Asp Ala Glu Leu
		1920	

Arg Lys Glu Met Met Ala Ile Trp Pro Asn Leu Ser Gln Lys Thr
 1925 1930 1935
 Leu Asp Leu Leu Val Thr Pro His Lys Ser Thr Asp Leu Thr Val
 1940 1945 1950
 Gly Lys Ile Tyr Ala Ala Met Met Ile Met Glu Tyr Tyr Arg Gln
 1955 1960 1965
 Ser Lys Ala Lys Lys Leu Gln Ala Met Arg Glu Glu Gln Asp Arg
 1970 1975 1980
 Thr Pro Leu Met Phe Gln Arg Met Glu Pro Pro Ser Pro Thr Gln
 1985 1990 1995
 Glu Gly Gly Pro Gly Gln Asn Ala Leu Pro Ser Thr Gln Leu Asp
 2000 2005 2010
 Pro Gly Gly Ala Leu Met Ala His Glu Ser Gly Leu Lys Glu Ser
 2015 2020 2025
 Pro Ser Trp Val Thr Gln Arg Ala Gln Glu Met Phe Gln Lys Thr
 2030 2035 2040
 Gly Thr Trp Ser Pro Glu Gln Gly Pro Pro Thr Asp Met Pro Asn
 2045 2050 2055
 Ser Gln Pro Asn Ser Gln Ser Val Glu Met Arg Glu Met Gly Arg
 2060 2065 2070
 Asp Gly Tyr Ser Asp Ser Glu His Tyr Leu Pro Met Glu Gly Gln
 2075 2080 2085
 Gly Arg Ala Ala Ser Met Pro Arg Leu Pro Ala Glu Asn Gln Arg
 2090 2095 2100
 Arg Arg Gly Arg Pro Arg Gly Asn Asn Leu Ser Thr Ile Ser Asp
 2105 2110 2115
 Thr Ser Pro Met Lys Arg Ser Ala Ser Val Leu Gly Pro Lys Ala
 2120 2125 2130
 Arg Arg Leu Asp Asp Tyr Ser Leu Glu Arg Val Pro Pro Glu Glu
 2135 2140 2145
 Asn Gln Arg His His Gln Arg Arg Arg Asp Arg Ser His Arg Ala
 2150 2155 2160

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Ser Glu Arg Ser Leu Gly Arg Tyr Thr Asp Val Asp Thr Gly Leu
2165 2170 2175

Gly Thr Asp Leu Ser Met Thr Thr Gln Ser Gly Asp Leu Pro Ser
2180 2185 2190

Lys Glu Arg Asp Gln Glu Arg Gly Arg Pro Lys Asp Arg Lys His
2195 2200 2205

Arg Gln His His His His His His His His His His Pro Pro Pro
2210 2215 2220

Pro Asp Lys Asp Arg Tyr Ala Gln Glu Arg Pro Asp His Gly Arg
2225 2230 2235

Ala Arg Ala Arg Asp Gln Arg Trp Ser Arg Ser Pro Ser Glu Gly
2240 2245 2250

Arg Glu His Met Ala His Arg Gln
2255 2260

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<211> 2505

<212> PRT

<213> Homo sapiens

<400> 11

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Ser Gly Ala Ala Ala Gly Val Val Val Gly Ser Gly Gly Gly Arg Gly
20 25 30

Ala Gly Gly Ser Arg Gln Gly Gly Gln Pro Gly Ala Gln Arg Met Tyr
35 40 45

Lys Gln Ser Met Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro
50 55 60

Ile Pro Val Arg Gln Asn Cys Leu Thr Val Asn Arg Ser Leu Phe Leu
65 70 75 80

Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys Lys Ile Thr Glu
85 90 95

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Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys
 100 105 110
 Ile Val Leu Ala Leu Glu Gln His Leu Pro Asp Asp Asp Lys Thr Pro
 115 120 125
 Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe
 130 135 140
 Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Ala Phe His
 145 150 155 160
 Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val
 165 170 175
 Val Leu Thr Gly Ile Leu Ala Thr Val Gly Thr Glu Phe Asp Leu Arg
 180 185 190
 Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly
 195 200 205
 Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Ile
 210 215 220
 Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Ile Phe
 225 230 235 240
 Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe His Thr Thr Cys
 245 250 255
 Phe Glu Glu Gly Thr Asp Asp Ile Gln Gly Glu Ser Pro Ala Pro Cys
 260 265 270
 Gly Thr Glu Glu Pro Ala Arg Thr Cys Pro Asn Gly Thr Lys Cys Gln
 275 280 285
 Pro Tyr Trp Glu Gly Pro Asn Asn Gly Ile Thr Gln Phe Asp Asn Ile
 290 295 300
 Leu Phe Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp
 305 310 315 320
 Thr Asp Leu Leu Tyr Asn Ser Asn Asp Ala Ser Gly Asn Thr Trp Asn
 325 330 335
 Trp Leu Tyr Phe Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Met Leu
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345

350

Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu
 355 360 365

Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln
 370 375 380

Ile Glu Arg Glu Leu Asn Gly Tyr Met Glu Trp Ile Ser Lys Ala Glu
 385 390 395 400

Glu Val Ile Leu Ala Glu Asp Glu Thr Asp Gly Glu Gln Arg His Pro
 405 410 415

Phe Asp Gly Ala Leu Arg Arg Thr Thr Ile Lys Lys Ser Lys Thr Asp
 420 425 430

Leu Leu Asn Pro Glu Glu Ala Glu Asp Gln Leu Ala Asp Ile Ala Ser
 435 440 445

Val Gly Ser Pro Phe Ala Arg Ala Ser Ile Lys Ser Ala Lys Leu Glu
 450 455 460

Asn Ser Thr Phe Phe His Lys Lys Glu Arg Arg Met Arg Phe Tyr Ile
 465 470 475 480

Arg Arg Met Val Lys Thr Gln Ala Phe Tyr Trp Thr Val Leu Ser Leu
 485 490 495

Val Ala Leu Asn Thr Leu Cys Val Ala Ile Val His Tyr Asn Gln Pro
 500 505 510

Glu Trp Leu Ser Asp Phe Leu Tyr Tyr Ala Glu Phe Ile Phe Leu Gly
 515 520 525

Leu Phe Met Ser Glu Met Phe Ile Lys Met Tyr Gly Leu Gly Thr Arg
 530 535 540

Pro Tyr Phe His Ser Ser Phe Asn Cys Phe Asp Cys Gly Val Ile Ile
 545 550 555 560

Gly Ser Ile Phe Glu Val Ile Trp Ala Val Ile Lys Pro Gly Thr Ser
 565 570 575

Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys
 580 585 590

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Val Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Leu
595 600 605

Asn Ser Met Lys Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe
610 615 620

Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe
625 630 635 640

Asn Phe Asp Glu Gly Thr Pro Pro Thr Asn Phe Asp Thr Phe Pro Ala
645 650 655

Ala Ile Met Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu
660 665 670

Val Met Tyr Asp Gly Ile Lys Ser Gln Gly Gly Val Gln Gly Gly Met
675 680 685

Val Phe Ser Ile Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr
690 695 700

Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala
705 710 715 720

Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu Glu Ala Ala Asn Gln
725 730 735

Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser Pro Leu
740 745 750

Ser Ala Ala Asn Met Ser Ile Ala Val Lys Glu Gln Gln Lys Asn Gln
755 760 765

Lys Pro Ala Lys Ser Val Trp Glu Gln Arg Thr Ser Glu Met Arg Lys
770 775 780

Gln Asn Leu Leu Ala Ser Arg Glu Ala Leu Tyr Asn Glu Met Asp Pro
785 790 795 800

Asp Glu Arg Trp Lys Ala Ala Tyr Thr Arg His Leu Arg Pro Asp Met
805 810 815

Lys Thr His Leu Asp Arg Pro Leu Val Val Asp Pro Gln Glu Asn Arg
820 825 830

Asn Asn Asn Thr Asn Lys Ser Arg Ala Ala Glu Pro Thr Val Asp Gln
835 840 845

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Arg Leu Gly Gln Gln Arg Ala Glu Asp Phe Leu Arg Lys Gln Ala Arg
850 855 860

Tyr His Asp Arg Ala Arg Asp Pro Ser Gly Ser Ala Gly Leu Asp Ala
865 870 875 880

Arg Arg Pro Trp Ala Gly Ser Gln Glu Ala Glu Leu Ser Arg Glu Gly
885 890 895

Pro Tyr Gly Arg Glu Ser Asp His His Ala Arg Glu Gly Ser Leu Glu
900 905 910

Gln Pro Gly Phe Trp Glu Gly Glu Ala Glu Arg Gly Lys Ala Gly Asp
915 920 925

Pro His Arg Arg His Val His Arg Gln Gly Gly Ser Arg Glu Ser Arg
930 935 940

Ser Gly Ser Pro Arg Thr Gly Ala Asp Gly Glu His Arg Arg His Arg
945 950 955 960

Ala His Arg Arg Pro Gly Glu Glu Gly Pro Glu Asp Lys Ala Glu Arg
965 970 975

Arg Ala Arg His Arg Glu Gly Ser Arg Pro Ala Arg Gly Gly Glu Gly
980 985 990

Glu Gly Glu Gly Pro Asp Gly Gly Glu Arg Arg Arg Arg His Arg His
995 1000 1005

Gly Ala Pro Ala Thr Tyr Glu Gly Asp Ala Arg Arg Glu Asp Lys
1010 1015 1020

Glu Arg Arg His Arg Arg Arg Lys Glu Asn Gln Gly Ser Gly Val
1025 1030 1035

Pro Val Ser Gly Pro Asn Leu Ser Thr Thr Arg Pro Ile Gln Gln
1040 1045 1050

Asp Leu Gly Arg Gln Asp Pro Pro Leu Ala Glu Asp Ile Asp Asn
1055 1060 1065

Met Lys Asn Asn Lys Leu Ala Thr Ala Glu Ser Ala Ala Pro His
1070 1075 1080

Gly Ser Leu Gly His Ala Gly Leu Pro Gln Ser Pro Ala Lys Met
1085 1090 1095

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Gly	Asn	Ser	Thr	Asp	Pro	Gly	Pro	Met	Leu	Ala	Ile	Pro	Ala	Met
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Ala	Thr	Asn	Pro	Gln	Asn	Ala	Ala	Ser	Arg	Arg	Thr	Pro	Asn	Asn
1115						1120					1125			
Pro	Gly	Asn	Pro	Ser	Asn	Pro	Gly	Pro	Pro	Lys	Thr	Pro	Glu	Asn
1130						1135					1140			
Ser	Leu	Ile	Val	Thr	Asn	Pro	Ser	Gly	Thr	Gln	Thr	Asn	Ser	Ala
1145						1150					1155			
Lys	Thr	Ala	Arg	Lys	Pro	Asp	His	Thr	Thr	Val	Asp	Ile	Pro	Pro
1160						1165					1170			
Ala	Cys	Pro	Pro	Pro	Leu	Asn	His	Thr	Val	Val	Gln	Val	Asn	Lys
1175						1180					1185			
Asn	Ala	Asn	Pro	Asp	Pro	Leu	Pro	Lys	Lys	Glu	Glu	Glu	Lys	Lys
1190						1195					1200			
Glu	Glu	Glu	Glu	Asp	Asp	Arg	Gly	Glu	Asp	Gly	Pro	Lys	Pro	Met
1205						1210					1215			
Pro	Pro	Tyr	Ser	Ser	Met	Phe	Ile	Leu	Ser	Thr	Thr	Asn	Pro	Leu
1220						1225					1230			
Arg	Arg	Leu	Cys	His	Tyr	Ile	Leu	Asn	Leu	Arg	Tyr	Phe	Glu	Met
1235						1240					1245			
Cys	Ile	Leu	Met	Val	Ile	Ala	Met	Ser	Ser	Ile	Ala	Leu	Ala	Ala
1250						1255					1260			
Glu	Asp	Pro	Val	Gln	Pro	Asn	Ala	Pro	Arg	Asn	Asn	Val	Leu	Arg
1265						1270					1275			
Tyr	Phe	Asp	Tyr	Val	Phe	Thr	Gly	Val	Phe	Thr	Phe	Glu	Met	Val
1280						1285					1290			
Ile	Lys	Met	Ile	Asp	Leu	Gly	Leu	Val	Leu	His	Gln	Gly	Ala	Tyr
1295						1300					1305			
Phe	Arg	Asp	Leu	Trp	Asn	Ile	Leu	Asp	Phe	Ile	Val	Val	Ser	Gly
1310						1315					1320			
Ala	Leu	Val	Ala	Phe	Ala	Phe	Thr	Gly	Asn	Ser	Lys	Gly	Lys	Asp

1325

1330

Ile	Asn	Thr	Ile	Lys	Ser	Leu	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro
	1340					1345					1350			
Leu	Lys	Thr	Ile	Lys	Arg	Leu	Pro	Lys	Leu	Lys	Ala	Val	Phe	Asp
	1355					1360					1365			
Cys	Val	Val	Asn	Ser	Leu	Lys	Asn	Val	Phe	Asn	Ile	Leu	Ile	Val
	1370					1375					1380			
Tyr	Met	Leu	Phe	Met	Phe	Ile	Phe	Ala	Val	Val	Ala	Val	Gln	Leu
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Phe	Lys	Gly	Lys	Phe	Phe	His	Cys	Thr	Asp	Glu	Ser	Lys	Glu	Phe
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Glu	Lys	Asp	Cys	Arg	Gly	Lys	Tyr	Leu	Leu	Tyr	Glu	Lys	Asn	Glu
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Val	Lys	Ala	Arg	Asp	Arg	Glu	Trp	Lys	Lys	Tyr	Glu	Phe	His	Tyr
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Asp	Asn	Val	Leu	Trp	Ala	Leu	Leu	Thr	Leu	Phe	Thr	Val	Ser	Thr
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Gly	Glu	Gly	Trp	Pro	Gln	Val	Leu	Lys	His	Ser	Val	Asp	Ala	Thr
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Phe	Glu	Asn	Gln	Gly	Pro	Ser	Pro	Gly	Tyr	Arg	Met	Glu	Met	Ser
	1475					1480					1485			
Ile	Phe	Tyr	Val	Val	Tyr	Phe	Val	Val	Phe	Pro	Phe	Phe	Phe	Val
	1490					1495					1500			
Asn	Ile	Phe	Val	Ala	Leu	Ile	Ile	Ile	Thr	Phe	Gln	Glu	Gln	Gly
	1505					1510					1515			
Asp	Lys	Met	Met	Glu	Glu	Tyr	Ser	Leu	Glu	Lys	Asn	Glu	Arg	Ala
	1520					1525					1530			
Cys	Ile	Asp	Phe	Ala	Ile	Ser	Ala	Lys	Pro	Leu	Thr	Arg	His	Met
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Pro	Gln	Asn	Lys	Gln	Ser	Phe	Gln	Tyr	Arg	Met	Trp	Gln	Phe	Val
	1550					1555					1560			

Val	Ser	Pro	Pro	Phe	Glu	Tyr	Thr	Ile	Met	Ala	Met	Ile	Ala	Leu
1565						1570					1575			
Asn	Thr	Ile	Val	Leu	Met	Met	Lys	Phe	Tyr	Gly	Ala	Ser	Val	Ala
1580						1585					1590			
Tyr	Glu	Asn	Ala	Leu	Arg	Val	Phe	Asn	Ile	Val	Phe	Thr	Ser	Leu
1595						1600					1605			
Phe	Ser	Leu	Glu	Cys	Val	Leu	Lys	Val	Met	Ala	Phe	Gly	Ile	Leu
1610						1615					1620			
Asn	Tyr	Phe	Arg	Asp	Ala	Trp	Asn	Ile	Phe	Asp	Phe	Val	Thr	Val
1625						1630					1635			
Leu	Gly	Ser	Ile	Thr	Asp	Ile	Leu	Val	Thr	Glu	Phe	Gly	Asn	Asn
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1655						1660					1665			
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1670						1675					1680			
Thr	Phe	Val	Gln	Ser	Phe	Lys	Ala	Leu	Pro	Tyr	Val	Cys	Leu	Leu
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1715						1720					1725			
Asp	Glu	Phe	Gln	Ile	Thr	Glu	His	Asn	Asn	Phe	Arg	Thr	Phe	Phe
1730						1735					1740			
Gln	Ala	Leu	Met	Leu	Leu	Phe	Arg	Ser	Ala	Thr	Gly	Glu	Ala	Trp
1745						1750					1755			
His	Asn	Ile	Met	Leu	Ser	Cys	Leu	Ser	Gly	Lys	Pro	Cys	Asp	Lys
1760						1765					1770			
Asn	Ser	Gly	Ile	Leu	Thr	Arg	Glu	Cys	Gly	Asn	Glu	Phe	Ala	Tyr
1775						1780					1785			
Phe	Tyr	Phe	Val	Ser	Phe	Ile	Phe	Leu	Cys	Ser	Phe	Leu	Met	Leu
1790						1795					1800			

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Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Glu	Tyr	Leu	Thr
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Arg	Val	Trp	Ala	Glu	Tyr	Asp	Pro	Ala	Ala	Cys	Gly	Arg	Ile	His
1835						1840					1845			
Tyr	Lys	Asp	Met	Tyr	Ser	Leu	Leu	Arg	Val	Ile	Ser	Pro	Pro	Leu
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1865						1870					1875			
Leu	Arg	Met	Asp	Leu	Pro	Val	Ala	Asp	Asp	Asn	Thr	Val	His	Phe
1880						1885					1890			
Asn	Ser	Thr	Leu	Met	Ala	Leu	Ile	Arg	Thr	Ala	Leu	Asp	Ile	Lys
1895						1900					1905			
Ile	Ala	Lys	Gly	Gly	Ala	Asp	Lys	Gln	Gln	Met	Asp	Ala	Glu	Leu
1910						1915					1920			
Arg	Lys	Glu	Met	Met	Ala	Ile	Trp	Pro	Asn	Leu	Ser	Gln	Lys	Thr
1925						1930					1935			
Leu	Asp	Leu	Leu	Val	Thr	Pro	His	Lys	Ser	Thr	Asp	Leu	Thr	Val
1940						1945					1950			
Gly	Lys	Ile	Tyr	Ala	Ala	Met	Met	Ile	Met	Glu	Tyr	Tyr	Arg	Gln
1955						1960					1965			
Ser	Lys	Ala	Lys	Lys	Leu	Gln	Ala	Met	Arg	Glu	Glu	Gln	Asp	Arg
1970						1975					1980			
Thr	Pro	Leu	Met	Phe	Gln	Arg	Met	Glu	Pro	Pro	Ser	Pro	Thr	Gln
1985						1990					1995			
Glu	Gly	Gly	Pro	Gly	Gln	Asn	Ala	Leu	Pro	Ser	Thr	Gln	Leu	Asp
2000						2005					2010			
Pro	Gly	Gly	Ala	Leu	Met	Ala	His	Glu	Ser	Gly	Leu	Lys	Glu	Ser
2015						2020					2025			
Pro	Ser	Trp	Val	Thr	Gln	Arg	Ala	Gln	Glu	Met	Phe	Gln	Lys	Thr
2030						2035					2040			

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Gly Thr Trp Ser Pro Glu Gln Gly Pro Pro Thr Asp Met Pro Asn
 2045 2050 2055
 Ser Gln Pro Asn Ser Gln Ser Val Glu Met Arg Glu Met Gly Arg
 2060 2065 2070
 Asp Gly Tyr Ser Asp Ser Glu His Tyr Leu Pro Met Glu Gly Gln
 2075 2080 2085
 Gly Arg Ala Ala Ser Met Pro Arg Leu Pro Ala Glu Asn Gln Arg
 2090 2095 2100
 Arg Arg Gly Arg Pro Arg Gly Asn Asn Leu Ser Thr Ile Ser Asp
 2105 2110 2115
 Thr Ser Pro Met Lys Arg Ser Ala Ser Val Leu Gly Pro Lys Ala
 2120 2125 2130
 Arg Arg Leu Asp Asp Tyr Ser Leu Glu Arg Val Pro Pro Glu Glu
 2135 2140 2145
 Asn Gln Arg His His Gln Arg Arg Arg Asp Arg Ser His Arg Ala
 2150 2155 2160
 Ser Glu Arg Ser Leu Gly Arg Tyr Thr Asp Val Asp Thr Gly Leu
 2165 2170 2175
 Gly Thr Asp Leu Ser Met Thr Thr Gln Ser Gly Asp Leu Pro Ser
 2180 2185 2190
 Lys Glu Arg Asp Gln Glu Arg Gly Arg Pro Lys Asp Arg Lys His
 2195 2200 2205
 Arg Gln His His His His His His His His His His Pro Pro Pro
 2210 2215 2220
 Pro Asp Lys Asp Arg Tyr Ala Gln Glu Arg Pro Asp His Gly Arg
 2225 2230 2235
 Ala Arg Ala Arg Asp Gln Arg Trp Ser Arg Ser Pro Ser Glu Gly
 2240 2245 2250
 Arg Glu His Met Ala His Arg Gln Gly Ser Ser Ser Val Ser Gly
 2255 2260 2265
 Ser Pro Ala Pro Ser Thr Ser Gly Thr Ser Thr Pro Arg Arg Gly
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2275

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Ser	Tyr	Ser	Pro	Val	Ile	Arg	Lys	Ala	Gly	Gly	Ser	Gly	Pro	Pro
2300						2305					2310			
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Ala	Val	Ala	Arg
2315						2320					2325			
Pro	Gly	Arg	Ala	Ala	Thr	Ser	Gly	Pro	Arg	Arg	Tyr	Pro	Gly	Pro
2330						2335					2340			
Thr	Ala	Glu	Pro	Leu	Ala	Gly	Asp	Arg	Pro	Pro	Thr	Gly	Gly	His
2345						2350					2355			
Ser	Ser	Gly	Arg	Ser	Pro	Arg	Met	Glu	Arg	Arg	Val	Pro	Gly	Pro
2360						2365					2370			
Ala	Arg	Ser	Glu	Ser	Pro	Arg	Ala	Cys	Arg	His	Gly	Gly	Ala	Arg
2375						2380					2385			
Trp	Pro	Ala	Ser	Gly	Pro	His	Val	Ser	Glu	Gly	Pro	Pro	Gly	Pro
2390						2395					2400			
Arg	His	His	Gly	Tyr	Tyr	Arg	Gly	Ser	Asp	Tyr	Asp	Glu	Ala	Asp
2405						2410					2415			
Gly	Pro	Gly	Ser	Gly	Gly	Gly	Glu	Glu	Ala	Met	Ala	Gly	Ala	Tyr
2420						2425					2430			
Asp	Ala	Pro	Pro	Pro	Val	Arg	His	Ala	Ser	Ser	Gly	Ala	Thr	Gly
2435						2440					2445			
Arg	Ser	Pro	Arg	Thr	Pro	Arg	Ala	Ser	Gly	Pro	Ala	Cys	Ala	Ser
2450						2455					2460			
Pro	Ser	Arg	His	Gly	Arg	Arg	Leu	Pro	Asn	Gly	Tyr	Tyr	Pro	Ala
2465						2470					2475			
His	Gly	Leu	Ala	Arg	Pro	Arg	Gly	Pro	Gly	Ser	Arg	Lys	Gly	Leu
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<212> PRT

<213> Homo sapiens

<400> 12

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Ser Gly Gln Ala Ala Ala Tyr Lys Gln Thr Lys Ala Gln Arg Ala Arg
35 40 45

Thr Met Ala Leu Tyr Asn Pro Ile Pro Val Arg Gln Asn Cys Phe Thr
50 55 60

Val Asn Arg Ser Leu Phe Ile Phe Gly Glu Asp Asn Ile Val Arg Lys
65 70 75 80

Tyr Ala Lys Lys Leu Ile Asp Trp Pro Pro Phe Glu Tyr Met Ile Leu
85 90 95

Ala Thr Ile Ile Ala Asn Cys Ile Val Leu Ala Leu Glu Gln His Leu
100 105 110

Pro Glu Asp Asp Lys Thr Pro Met Ser Arg Arg Leu Glu Lys Thr Glu
115 120 125

Pro Tyr Phe Ile Gly Ile Phe Cys Phe Glu Ala Gly Ile Lys Ile Val
130 135 140

Ala Leu Gly Phe Ile Phe His Lys Gly Ser Tyr Leu Arg Asn Gly Trp
145 150 155 160

Asn Val Met Asp Phe Ile Val Val Leu Ser Gly Ile Leu Ala Thr Ala
165 170 175

Gly Thr His Phe Asn Thr His Val Asp Leu Arg Thr Leu Arg Ala Val
180 185 190

Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly Ile Pro Ser Leu Gln
195 200 205

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Ile Val Leu Lys Ser Ile Met Lys Ala Met Val Pro Leu Leu Gln Ile
210 215 220

Gly Leu Leu Leu Phe Phe Ala Ile Leu Met Phe Ala Ile Ile Gly Leu
225 230 235 240

Glu Phe Tyr Ser Gly Lys Leu His Arg Ala Cys Phe Met Asn Asn Ser
245 250 255

Gly Ile Leu Glu Gly Phe Asp Pro Pro His Pro Cys Gly Val Gln Gly
260 265 270

Cys Pro Ala Gly Tyr Glu Cys Lys Asp Trp Ile Gly Pro Asn Asp Gly
275 280 285

Ile Thr Gln Phe Asp Asn Ile Leu Phe Ala Val Leu Thr Val Phe Gln
290 295 300

Cys Ile Thr Met Glu Gly Trp Thr Thr Val Leu Tyr Asn Thr Asn Asp
305 310 315 320

Ala Leu Gly Ala Thr Trp Asn Trp Leu Tyr Phe Ile Pro Leu Ile Ile
325 330 335

Ile Gly Ser Phe Phe Val Leu Asn Leu Val Leu Gly Val Leu Ser Gly
340 345 350

Glu Phe Ala Lys Glu Arg Glu Arg Val Glu Asn Arg Arg Ala Phe Met
355 360 365

Lys Leu Arg Arg Gln Gln Gln Ile Glu Arg Glu Leu Asn Gly Tyr Arg
370 375 380

Ala Trp Ile Asp Lys Ala Glu Glu Val Met Leu Ala Glu Glu Asn Lys
385 390 395 400

Asn Ala Gly Thr Ser Ala Leu Glu Val Leu Arg Arg Ala Thr Ile Lys
405 410 415

Arg Ser Arg Thr Glu Ala Met Thr Arg Asp Ser Ser Asp Glu His Cys
420 425 430

Val Asp Ile Ser Ser Val Gly Thr Pro Leu Ala Arg Ala Ser Ile Lys
435 440 445

Ser Ala Lys Val Asp Gly Val Ser Tyr Phe Arg His Lys Glu Arg Leu
450 455 460

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Leu Arg Ile Ser Ile Arg His Met Val Lys Ser Gln Val Phe Tyr Trp
465 470 475 480

Ile Val Leu Ser Leu Val Ala Leu Asn Thr Ala Cys Val Ala Ile Val
485 490 495

His His Asn Gln Pro Gln Trp Leu Thr His Leu Leu Tyr Tyr Ala Glu
500 505 510

Phe Leu Phe Leu Gly Leu Phe Leu Leu Glu Met Ser Leu Lys Met Tyr
515 520 525

Gly Met Gly Pro Arg Leu Tyr Phe His Ser Ser Phe Asn Cys Phe Asp
530 535 540

Phe Gly Val Thr Val Gly Ser Ile Phe Glu Val Val Trp Ala Ile Phe
545 550 555 560

Arg Pro Gly Thr Ser Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu
565 570 575

Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu
580 585 590

Val Val Ser Leu Met Ser Ser Met Lys Ser Ile Ile Ser Leu Leu Phe
595 600 605

Leu Leu Phe Leu Phe Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu
610 615 620

Phe Gly Gly Arg Phe Asn Phe Asn Asp Gly Thr Pro Ser Ala Asn Phe
625 630 635 640

Asp Thr Phe Pro Ala Ala Ile Ile Thr Val Phe Gln Ile Leu Thr Gly
645 650 655

Glu Asp Trp Asn Glu Val Met Tyr Asn Gly Ile Arg Ser Gln Gly Gly
660 665 670

Val Ser Ser Gly Met Trp Ser Ala Ile Tyr Phe Ile Val Leu Thr Leu
675 680 685

Phe Gly Asn Tyr Thr Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp
690 695 700

Asn Leu Ala Asn Ala Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu
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705					710														720
Glu	Ala	Phe	Asn	Gln	Lys	His	Ala	Leu	Gln	Lys	Ala	Lys	Glu	Val	Ser				
				725					730					735					
Pro	Met	Ser	Ala	Pro	Asn	Met	Pro	Ser	Ile	Glu	Arg	Asp	Arg	Arg	Arg				
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	770					775					780								
Leu	Arg	Lys	His	Met	Gln	Met	Ser	Ser	Gln	Glu	Ala	Leu	Asn	Arg	Glu				
785					790					795					800				
Glu	Ala	Pro	Thr	Met	Asn	Pro	Leu	Asn	Pro	Leu	Asn	Pro	Leu	Ser	Ser				
				805					810					815					
Leu	Asn	Pro	Leu	Asn	Ala	His	Pro	Ser	Leu	Tyr	Arg	Arg	Pro	Arg	Ala				
			820					825					830						
Ile	Glu	Gly	Trp	Pro	Gly	Leu	Ala	Leu	Glu	Lys	Phe	Glu	Glu	Glu	Arg				
		835					840					845							
Ile	Ser	Arg	Gly	Gly	Ser	Leu	Lys	Gly	Asp	Gly	Gly	Asp	Arg	Ser	Ser				
	850					855					860								
Ala	Leu	Asp	Asn	Gln	Arg	Thr	Pro	Leu	Ser	Leu	Gly	Gln	Arg	Glu	Pro				
865					870					875					880				
Pro	Trp	Leu	Ala	Arg	Pro	Cys	His	Gly	Asn	Cys	Asp	Pro	Thr	Gln	Gln				
				885					890					895					
Glu	Ala	Gly	Gly	Gly	Glu	Ala	Val	Val	Thr	Phe	Glu	Asp	Arg	Ala	Arg				
			900					905					910						
His	Arg	Gln	Ser	Gln	Arg	Arg	Ser	Arg	His	Arg	Arg	Val	Arg	Thr	Glu				
		915					920					925							
Gly	Lys	Glu	Ser	Ser	Ser	Ala	Ser	Arg	Ser	Arg	Ser	Ala	Ser	Gln	Glu				
	930					935					940								
Arg	Ser	Leu	Asp	Glu	Ala	Met	Pro	Thr	Glu	Gly	Glu	Lys	Asp	His	Glu				
945					950					955					960				

Leu Arg Gly Asn His Gly Ala Lys Glu Pro Thr Ile Gln Glu Glu Arg
 965 970 975

Ala Gln Asp Leu Arg Arg Thr Asn Ser Leu Met Val Ser Arg Gly Ser
 980 985 990

Gly Leu Ala Gly Gly Leu Asp Glu Ala Asp Thr Pro Leu Val Leu Pro
 995 1000 1005

His Pro Glu Leu Glu Val Gly Lys His Val Val Leu Thr Glu Gln
 1010 1015 1020

Glu Pro Glu Gly Ser Ser Glu Gln Ala Leu Leu Gly Asn Val Gln
 1025 1030 1035

Leu Asp Met Gly Arg Val Ile Ser Gln Ser Glu Pro Asp Leu Ser
 1040 1045 1050

Cys Ile Thr Ala Asn Thr Asp Lys Ala Thr Thr Glu Ser Thr Ser
 1055 1060 1065

Val Thr Val Ala Ile Pro Asp Val Asp Pro Leu Val Asp Ser Thr
 1070 1075 1080

Val Val His Ile Ser Asn Lys Thr Asp Gly Glu Ala Ser Pro Leu
 1085 1090 1095

Lys Glu Ala Glu Ile Arg Glu Asp Glu Glu Glu Val Glu Lys Lys
 1100 1105 1110

Lys Gln Lys Lys Glu Lys Arg Glu Thr Gly Lys Ala Met Val Pro
 1115 1120 1125

His Ser Ser Met Phe Ile Phe Ser Thr Thr Asn Pro Ile Arg Arg
 1130 1135 1140

Ala Cys His Tyr Ile Val Asn Leu Arg Tyr Phe Glu Met Cys Ile
 1145 1150 1155

Leu Leu Val Ile Ala Ala Ser Ser Ile Ala Leu Ala Ala Glu Asp
 1160 1165 1170

Pro Val Leu Thr Asn Ser Glu Arg Asn Lys Val Leu Arg Tyr Phe
 1175 1180 1185

Asp Tyr Val Phe Thr Gly Val Phe Thr Phe Glu Met Val Ile Lys
 1190 1195 1200

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Met Ile Asp Gln Gly Leu Ile Leu Gln Asp Gly Ser Tyr Phe Arg
1205 1210 1215

Asp Leu Trp Asn Ile Leu Asp Phe Val Val Val Val Gly Ala Leu
1220 1225 1230

Val Ala Phe Ala Leu Ala Asn Ala Leu Gly Thr Asn Lys Gly Arg
1235 1240 1245

Asp Ile Lys Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg
1250 1255 1260

Pro Leu Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe
1265 1270 1275

Asp Cys Val Val Thr Ser Leu Lys Asn Val Phe Asn Ile Leu Ile
1280 1285 1290

Val Tyr Lys Leu Phe Met Phe Ile Phe Ala Val Ile Ala Val Gln
1295 1300 1305

Leu Phe Lys Gly Lys Phe Phe Tyr Cys Thr Asp Ser Ser Lys Asp
1310 1315 1320

Thr Glu Lys Glu Cys Ile Gly Asn Tyr Val Asp His Glu Lys Asn
1325 1330 1335

Lys Met Glu Val Lys Gly Arg Glu Trp Lys Arg His Glu Phe His
1340 1345 1350

Tyr Asp Asn Ile Ile Trp Ala Leu Leu Thr Leu Phe Thr Val Ser
1355 1360 1365

Thr Gly Glu Gly Trp Pro Gln Val Leu Gln His Ser Val Asp Val
1370 1375 1380

Thr Glu Glu Asp Arg Gly Pro Ser Arg Ser Asn Arg Met Glu Met
1385 1390 1395

Ser Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe Phe Phe
1400 1405 1410

Val Asn Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln Glu Gln
1415 1420 1425

Gly Asp Lys Met Met Glu Glu Cys Ser Leu Glu Lys Asn Glu Arg
1430 1435 1440

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Ala	Cys	Ile	Asp	Phe	Ala	Ile	Ser	Ala	Lys	Pro	Leu	Thr	Arg	Tyr
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Met	Pro	Gln	Asn	Arg	His	Thr	Phe	Gln	Tyr	Arg	Val	Trp	His	Phe
	1460					1465					1470			
Val	Val	Ser	Pro	Ser	Phe	Glu	Tyr	Thr	Ile	Met	Ala	Met	Ile	Ala
	1475					1480					1485			
Leu	Asn	Thr	Val	Val	Leu	Met	Met	Lys	Tyr	Tyr	Ser	Ala	Pro	Cys
	1490					1495					1500			
Thr	Tyr	Glu	Leu	Ala	Leu	Lys	Tyr	Leu	Asn	Ile	Ala	Phe	Thr	Met
	1505					1510					1515			
Val	Phe	Ser	Leu	Glu	Cys	Val	Leu	Lys	Val	Ile	Ala	Phe	Gly	Phe
	1520					1525					1530			
Leu	Asn	Tyr	Phe	Arg	Asp	Thr	Trp	Asn	Ile	Phe	Asp	Phe	Ile	Thr
	1535					1540					1545			
Val	Ile	Gly	Ser	Ile	Thr	Glu	Ile	Ile	Leu	Thr	Asp	Ser	Lys	Leu
	1550					1555					1560			
Val	Asn	Thr	Ser	Gly	Phe	Asn	Met	Ser	Phe	Leu	Lys	Leu	Phe	Arg
	1565					1570					1575			
Ala	Ala	Arg	Leu	Ile	Lys	Leu	Leu	Arg	Gln	Gly	Tyr	Thr	Ile	Arg
	1580					1585					1590			
Ile	Leu	Leu	Trp	Thr	Phe	Val	Gln	Ser	Phe	Lys	Ala	Leu	Pro	Tyr
	1595					1600					1605			
Val	Cys	Leu	Leu	Ile	Ala	Met	Leu	Phe	Phe	Ile	Tyr	Ala	Ile	Ile
	1610					1615					1620			
Gly	Met	Gln	Val	Phe	Gly	Asn	Ile	Lys	Leu	Asp	Glu	Glu	Ser	His
	1625					1630					1635			
Ile	Asn	Arg	His	Asn	Asn	Phe	Arg	Ser	Phe	Phe	Gly	Ser	Leu	Met
	1640					1645					1650			
Leu	Leu	Phe	Arg	Ser	Ala	Thr	Gly	Glu	Ala	Trp	Gln	Glu	Ile	Met
	1655					1660					1665			
Leu	Ser	Cys	Leu	Gly	Glu	Lys	Gly	Cys	Glu	Pro	Asp	Thr	Thr	Ala

1670	1675													
Pro	Ser	Gly	Gln	Asn	Glu	Asn	Glu	Arg	Cys	Gly	Thr	Asp	Leu	Ala
1685						1690					1695			
Tyr	Val	Tyr	Phe	Val	Ser	Phe	Ile	Phe	Phe	Cys	Ser	Phe	Leu	Met
1700						1705					1710			
Leu	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Glu	Tyr	Leu
1715						1720					1725			
Thr	Arg	Asp	Ser	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp	Glu	Phe
1730						1735					1740			
Val	Arg	Val	Trp	Ala	Glu	Tyr	Asp	Arg	Ala	Ala	Cys	Gly	Arg	Ile
1745						1750					1755			
His	Tyr	Thr	Glu	Met	Tyr	Glu	Met	Leu	Thr	Leu	Met	Ser	Pro	Pro
1760						1765					1770			
Leu	Gly	Leu	Gly	Lys	Arg	Cys	Pro	Ser	Lys	Val	Ala	Tyr	Lys	Arg
1775						1780					1785			
Leu	Val	Leu	Met	Asn	Met	Pro	Val	Ala	Glu	Asp	Met	Thr	Val	His
1790						1795					1800			
Phe	Thr	Ser	Thr	Leu	Met	Ala	Leu	Ile	Arg	Thr	Ala	Leu	Asp	Ile
1805						1810					1815			
Lys	Ile	Ala	Lys	Gly	Gly	Ala	Asp	Arg	Gln	Gln	Leu	Asp	Ser	Glu
1820						1825					1830			
Leu	Gln	Lys	Glu	Thr	Leu	Ala	Ile	Trp	Pro	His	Leu	Ser	Gln	Lys
1835						1840					1845			
Met	Leu	Asp	Leu	Leu	Val	Pro	Met	Pro	Lys	Ala	Ser	Asp	Leu	Thr
1850						1855					1860			
Val	Gly	Lys	Ile	Tyr	Ala	Ala	Met	Met	Ile	Met	Asp	Tyr	Tyr	Lys
1865						1870					1875			
Gln	Ser	Lys	Val	Lys	Lys	Gln	Arg	Gln	Gln	Leu	Glu	Glu	Gln	Lys
1880						1885					1890			
Asn	Ala	Pro	Met	Phe	Gln	Arg	Met	Glu	Pro	Ser	Ser	Leu	Pro	Gln
1895						1900					1905			

Glu Ile Ile Ala Asn Ala Lys Ala Leu Pro Tyr Leu Gln Gln Asp
 1910 1915 1920
 Pro Val Ser Gly Leu Ser Gly Arg Ser Gly Tyr Pro Ser Met Ser
 1925 1930 1935
 Pro Leu Ser Pro Gln Asp Ile Phe Gln Leu Ala Cys Met Asp Pro
 1940 1945 1950
 Thr Asp Asp Gly Gln Phe Gln Glu Arg Gln Ser Leu Glu Pro Glu
 1955 1960 1965
 Val Ser Glu Leu Lys Ser Val Gln Pro Ser Asn His Gly Ile Tyr
 1970 1975 1980
 Leu Pro Ser Asp Thr Gln Glu His Ala Gly Ser Gly Arg Ala Ser
 1985 1990 1995
 Ser Met Pro Arg Leu Thr Val Asp Pro Gln Val Val Thr Asp Pro
 2000 2005 2010
 Ser Ser Met Arg Arg Ser Phe Ser Thr Ile Arg Asp Lys Arg Ser
 2015 2020 2025
 Asn Ser Ser Trp Leu Glu Glu Phe Ser Met Glu Arg Ser Ser Glu
 2030 2035 2040
 Asn Thr Tyr Lys Ser Arg Arg Arg Ser Tyr His Ser Ser Leu Arg
 2045 2050 2055
 Leu Ser Ala His Arg Leu Asn Ser Asp Ser Gly His Lys Ser Asp
 2060 2065 2070
 Thr His Arg Ser Gly Gly Arg Glu Arg Gly Arg Ser Lys Glu Arg
 2075 2080 2085
 Lys His Leu Leu Ser Pro Asp Val Ser Arg Cys Asn Ser Glu Glu
 2090 2095 2100
 Arg Gly Thr Gln Ala Asp Trp Glu Ser Pro Glu Arg Arg Gln Ser
 2105 2110 2115
 Arg Ser Pro Ser Glu Gly Arg Ser Gln Thr Pro Asn Arg Gln Gly
 2120 2125 2130
 Thr Gly Ser Leu Ser Glu Ser Ser Ile Pro Ser Val Ser Asp Thr
 2135 2140 2145

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Ser Thr Pro Arg Arg Ser Arg Arg Gln Leu Pro Pro Val Pro Pro
2150 2155 2160

Lys Pro Arg Pro Leu Leu Ser Tyr Ser Ser Leu Ile Arg His Ala
2165 2170 2175

Gly Ser Ile Ser Pro Pro Ala Asp Gly Ser Glu Glu Gly Ser Pro
2180 2185 2190

Leu Thr Ser Gln Ala Leu Glu Ser Asn Asn Ala Cys Leu Thr Glu
2195 2200 2205

Ser Ser Asn Ser Pro His Pro Gln Gln Ser Gln His Ala Ser Pro
2210 2215 2220

Gln Arg Tyr Ile Ser Glu Pro Tyr Leu Ala Leu His Glu Asp Ser
2225 2230 2235

His Ala Ser Asp Cys Gly Glu Glu Glu Thr Leu Thr Phe Glu Ala
2240 2245 2250

Ala Val Ala Thr Ser Leu Gly Arg Ser Asn Thr Ile Gly Ser Ala
2255 2260 2265

Pro Pro Leu Arg His Ser Trp Gln Met Pro Asn Gly His Tyr Arg
2270 2275 2280

Arg Arg Arg Arg Gly Gly Pro Gly Pro Gly Met Met Cys Gly Ala
2285 2290 2295

Val Asn Asn Leu Leu Ser Asp Thr Glu Glu Asp Asp Lys Cys
2300 2305 2310

<210> 13

<211> 2162

<212> PRT

<213> Homo sapiens

<400> 13

Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys Ile Val
1 5 10 15

Leu Ala Leu Glu Gln His Leu Pro Glu Asp Asp Lys Thr Pro Met Ser
20 25 30

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Arg Arg Leu Glu Lys Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe
35 40 45

Glu Ala Gly Ile Lys Ile Val Ala Leu Gly Phe Ile Phe His Lys Gly
50 55 60

Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Ile Val Val Leu
65 70 75 80

Ser Gly Ile Leu Ala Thr Ala Gly Thr His Phe Asn Thr His Val Asp
85 90 95

Leu Arg Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val
100 105 110

Ser Gly Ile Pro Ser Leu Gln Ile Val Leu Lys Ser Ile Met Lys Ala
115 120 125

Met Val Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu
130 135 140

Met Phe Ala Ile Ile Gly Leu Glu Phe Tyr Ser Gly Lys Leu His Arg
145 150 155 160

Ala Cys Phe Met Asn Asn Ser Gly Ile Leu Glu Gly Phe Asp Pro Pro
165 170 175

His Pro Cys Gly Val Gln Gly Cys Pro Ala Gly Tyr Glu Cys Lys Asp
180 185 190

Trp Ile Gly Pro Asn Asp Gly Ile Thr Gln Phe Asp Asn Ile Leu Phe
195 200 205

Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Thr
210 215 220

Val Leu Tyr Asn Thr Asn Asp Ala Leu Gly Ala Thr Trp Asn Trp Leu
225 230 235 240

Tyr Phe Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Val Leu Asn Leu
245 250 255

Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val
260 265 270

Glu Asn Arg Arg Ala Phe Met Lys Leu Arg Arg Gln Gln Gln Ile Glu
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280

285

Arg Glu Leu Asn Gly Tyr Arg Ala Trp Ile Asp Lys Ala Glu Glu Val
290 295 300

Met Leu Ala Glu Glu Asn Lys Asn Ala Gly Thr Ser Ala Leu Glu Val
305 310 315 320

Leu Arg Arg Ala Thr Ile Lys Arg Ser Arg Thr Glu Ala Met Thr Arg
325 330 335

Asp Ser Ser Asp Glu His Cys Val Asp Ile Ser Ser Val Gly Thr Pro
340 345 350

Leu Ala Arg Ala Ser Ile Lys Ser Ala Lys Val Asp Gly Val Ser Tyr
355 360 365

Phe Arg His Lys Glu Arg Leu Leu Arg Ile Ser Ile Arg His Met Val
370 375 380

Lys Ser Gln Val Phe Tyr Trp Ile Val Leu Ser Leu Val Ala Leu Asn
385 390 395 400

Thr Ala Cys Val Ala Ile Val His His Asn Gln Pro Gln Trp Leu Thr
405 410 415

His Leu Leu Tyr Tyr Ala Glu Phe Leu Phe Leu Gly Leu Phe Leu Leu
420 425 430

Glu Met Ser Leu Lys Met Tyr Gly Met Gly Pro Arg Leu Tyr Phe His
435 440 445

Ser Ser Phe Asn Cys Phe Asp Phe Gly Val Thr Val Gly Ser Ile Phe
450 455 460

Glu Val Val Trp Ala Ile Phe Arg Pro Gly Thr Ser Phe Gly Ile Ser
465 470 475 480

Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr
485 490 495

Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Met Ser Ser Met Lys
500 505 510

Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe
515 520 525

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Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Arg Phe Asn Phe Asn Asp
530 535 540

Gly Thr Pro Ser Ala Asn Phe Asp Thr Phe Pro Ala Ala Ile Met Thr
545 550 555 560

Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu Val Met Tyr Asn
565 570 575

Gly Ile Arg Ser Gln Gly Gly Val Ser Ser Gly Met Trp Ser Ala Ile
580 585 590

Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val
595 600 605

Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr
610 615 620

Lys Asp Glu Gln Glu Glu Glu Glu Ala Phe Asn Gln Lys His Ala Leu
625 630 635 640

Gln Lys Ala Lys Glu Val Ser Pro Met Ser Ala Pro Asn Met Pro Ser
645 650 655

Ile Glu Arg Glu Arg Arg Arg Arg His His Met Ser Val Trp Glu Gln
660 665 670

Arg Thr Ser Gln Leu Arg Lys His Met Gln Met Ser Ser Gln Glu Ala
675 680 685

Leu Asn Arg Glu Glu Ala Pro Thr Met Asn Pro Leu Asn Pro Leu Asn
690 695 700

Pro Leu Ser Ser Leu Asn Pro Leu Asn Ala His Pro Ser Leu Tyr Arg
705 710 715 720

Arg Pro Arg Ala Ile Glu Gly Leu Ala Leu Gly Leu Ala Leu Glu Lys
725 730 735

Phe Glu Glu Glu Arg Ile Ser Arg Gly Gly Ser Leu Lys Gly Asp Gly
740 745 750

Gly Asp Arg Ser Ser Ala Leu Asp Asn Gln Arg Thr Pro Leu Ser Leu
755 760 765

Gly Gln Arg Glu Pro Pro Trp Leu Ala Arg Pro Cys His Gly Asn Cys
770 775 780

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Asp Pro Thr Gln Gln Glu Ala Gly Gly Gly Glu Ala Val Val Thr Phe
 785 790 795 800
 Glu Asp Arg Ala Arg His Arg Gln Ser Gln Arg Arg Ser Arg His Arg
 805 810 815
 Arg Val Arg Thr Glu Gly Lys Glu Ser Ser Ser Ala Ser Arg Ser Arg
 820 825 830
 Ser Ala Ser Gln Glu Arg Ser Leu Asp Glu Ala Met Pro Thr Glu Gly
 835 840 845
 Glu Lys Asp His Glu Leu Arg Gly Asn His Gly Ala Lys Glu Pro Thr
 850 855 860
 Ile Gln Glu Glu Arg Ala Gln Asp Leu Arg Arg Thr Asn Ser Leu Met
 865 870 875 880
 Val Ser Arg Gly Ser Gly Leu Ala Gly Gly Leu Asp Glu Ala Asp Thr
 885 890 895
 Pro Leu Val Leu Pro His Pro Glu Leu Glu Val Gly Lys His Val Val
 900 905 910
 Leu Thr Glu Gln Glu Pro Glu Gly Ser Ser Glu Gln Ala Leu Leu Gly
 915 920 925
 Asn Val Gln Leu Asp Met Gly Arg Val Ile Ser Gln Ser Glu Pro Asp
 930 935 940
 Leu Ser Cys Ile Thr Ala Asn Thr Asp Lys Ala Thr Thr Glu Ser Thr
 945 950 955 960
 Ser Val Thr Val Ala Ile Pro Asp Val Asp Pro Leu Val Asp Ser Thr
 965 970 975
 Val Val His Ile Ser Asn Lys Thr Asp Gly Glu Ala Ser Pro Leu Lys
 980 985 990
 Glu Ala Glu Ile Arg Glu Asp Glu Glu Glu Val Glu Lys Lys Lys Gln
 995 1000 1005
 Lys Lys Glu Lys Arg Glu Thr Gly Lys Ala Met Val Pro His Ser
 1010 1015 1020
 Ser Met Phe Ile Phe Ser Thr Thr Asn Pro Ile Arg Arg Ala Cys
 1025 1030 1035

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His Tyr Ile Val Asn Leu Arg Tyr Phe Glu Met Cys Ile Leu Leu
1040 1045 1050

Val Ile Ala Ala Ser Ser Ile Ala Leu Ala Ala Glu Asp Pro Val
1055 1060 1065

Leu Thr Asn Ser Glu Arg Asn Lys Val Leu Arg Tyr Phe Asp Tyr
1070 1075 1080

Val Phe Thr Gly Val Phe Thr Phe Glu Met Val Ile Lys Met Ile
1085 1090 1095

Asp Gln Gly Leu Ile Leu Gln Asp Gly Ser Tyr Phe Arg Asp Leu
1100 1105 1110

Trp Asn Ile Leu Asp Phe Val Val Val Val Gly Ala Leu Val Ala
1115 1120 1125

Phe Ala Leu Ala Asn Ala Leu Gly Thr Asn Lys Gly Arg Asp Ile
1130 1135 1140

Lys Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg Pro Leu
1145 1150 1155

Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe Asp Cys
1160 1165 1170

Val Val Thr Ser Leu Lys Asn Val Phe Asn Ile Leu Ile Val Tyr
1175 1180 1185

Lys Leu Phe Met Phe Ile Phe Ala Val Ile Ala Val Gln Leu Phe
1190 1195 1200

Lys Gly Lys Phe Phe Tyr Cys Thr Asp Ser Ser Lys Asp Thr Glu
1205 1210 1215

Lys Glu Cys Ile Gly Asn Tyr Val Asp His Glu Lys Asn Lys Met
1220 1225 1230

Glu Val Lys Gly Arg Glu Trp Lys Arg His Glu Phe His Tyr Asp
1235 1240 1245

Asn Ile Ile Trp Ala Leu Leu Thr Leu Phe Thr Val Ser Thr Gly
1250 1255 1260

Glu Gly Trp Pro Gln Val Leu Gln His Ser Val Asp Val Thr Glu
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1265		1270	
Glu Asp Arg Gly Pro Ser	Arg Ser Asn Arg Met	Glu Met Ser Ile	
1280	1285	1290	
Phe Tyr Val Val Tyr Phe	Val Val Phe Pro Phe	Phe Phe Val Asn	
1295	1300	1305	
Ile Phe Val Ala Leu Ile	Ile Ile Thr Phe Gln	Glu Gln Gly Asp	
1310	1315	1320	
Lys Met Met Glu Glu Cys	Ser Leu Glu Lys Asn	Glu Arg Ala Cys	
1325	1330	1335	
Ile Asp Phe Ala Ile Ser	Ala Lys Pro Leu Thr	Arg Tyr Met Pro	
1340	1345	1350	
Gln Asn Arg His Thr Phe	Gln Tyr Arg Val Trp	His Phe Val Val	
1355	1360	1365	
Ser Pro Ser Phe Glu Tyr	Thr Ile Met Ala Met	Ile Ala Leu Asn	
1370	1375	1380	
Thr Val Val Leu Met Met	Lys Tyr Tyr Ser Ala	Pro Cys Thr Tyr	
1385	1390	1395	
Glu Leu Ala Leu Lys Tyr	Leu Asn Ile Ala Phe	Thr Met Val Phe	
1400	1405	1410	
Ser Leu Glu Cys Val Leu	Lys Val Ile Ala Phe	Gly Phe Leu Asn	
1415	1420	1425	
Tyr Phe Arg Asp Thr Trp	Asn Ile Phe Asp Phe	Ile Thr Val Ile	
1430	1435	1440	
Gly Ser Ile Thr Glu Ile	Ile Leu Thr Asp Ser	Lys Leu Val Asn	
1445	1450	1455	
Thr Ser Gly Phe Asn Met	Ser Phe Leu Lys Leu	Phe Arg Ala Ala	
1460	1465	1470	
Arg Leu Ile Lys Leu Leu	Arg Gln Gly Tyr Thr	Ile Arg Ile Leu	
1475	1480	1485	
Leu Trp Thr Phe Val Gln	Ser Phe Lys Ala Leu	Pro Tyr Val Cys	
1490	1495	1500	

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Leu Leu Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met
1505 1510 1515

Gln Val Phe Gly Asn Ile Lys Leu Asp Glu Glu Ser His Ile Asn
1520 1525 1530

Arg His Asn Asn Phe Arg Ser Phe Phe Gly Ser Leu Met Leu Leu
1535 1540 1545

Phe Arg Ser Ala Thr Gly Glu Ala Trp Gln Glu Ile Met Leu Ser
1550 1555 1560

Cys Leu Gly Glu Lys Gly Cys Glu Pro Asp Thr Thr Ala Pro Ser
1565 1570 1575

Gly Gln Asn Glu Asn Glu Arg Cys Gly Thr Asp Leu Ala Tyr Val
1580 1585 1590

Tyr Phe Val Ser Phe Ile Phe Phe Cys Ser Phe Leu Met Leu Asn
1595 1600 1605

Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu Thr Arg
1610 1615 1620

Asp Ser Ser Ile Leu Gly Pro His His Leu Asp Glu Phe Val Arg
1625 1630 1635

Val Trp Ala Glu Tyr Asp Arg Ala Ala Cys Gly Arg Ile Pro Tyr
1640 1645 1650

Lys Asp Met Tyr Lys Leu Val Arg Val Ile Ser Pro Pro Leu Gly
1655 1660 1665

Leu Gly Glu Asn Cys Pro Tyr Arg Val Ala Cys Lys Arg Leu Val
1670 1675 1680

Leu Met Asn Met Pro Val Ala Glu Asp Met Thr Val His Phe Thr
1685 1690 1695

Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu Asp Ile Lys Ile
1700 1705 1710

Ala Lys Gly Gly Ala Asp Arg Gln Gln Leu Asp Ser Glu Leu Gln
1715 1720 1725

Lys Glu Thr Leu Ala Ile Trp Pro His Leu Ser Gln Lys Met Leu
1730 1735 1740

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Asp	Leu	Leu	Val	Pro	Met	Pro	Lys	Ala	Ser	Asp	Leu	Thr	Val	Gly
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Lys	Ile	Tyr	Ala	Ala	Met	Met	Ile	Met	Asp	Tyr	Tyr	Lys	Gln	Ser
	1760					1765					1770			
Lys	Val	Lys	Lys	Gln	Arg	Gln	Gln	Leu	Glu	Glu	Gln	Lys	Asn	Ala
	1775					1780					1785			
Pro	Met	Phe	Gln	Arg	Met	Glu	Pro	Ser	Ser	Leu	Pro	Gln	Glu	Ile
	1790					1795					1800			
Ile	Ala	Asn	Ala	Lys	Ala	Leu	Pro	Tyr	Leu	Gln	Gln	Asp	Pro	Val
	1805					1810					1815			
Ser	Gly	Leu	Ser	Gly	Arg	Ser	Gly	Tyr	Pro	Ser	Met	Ser	Pro	Leu
	1820					1825					1830			
Ser	Pro	Gln	Asp	Ile	Phe	Gln	Leu	Ala	Cys	Met	Asp	Pro	Ala	Asp
	1835					1840					1845			
Asp	Gly	Gln	Phe	Gln	Glu	Arg	Gln	Ser	Leu	Val	Val	Thr	Asp	Pro
	1850					1855					1860			
Ser	Ser	Met	Arg	Arg	Ser	Phe	Ser	Thr	Ile	Arg	Asp	Lys	Arg	Ser
	1865					1870					1875			
Asn	Ser	Ser	Trp	Leu	Glu	Glu	Phe	Ser	Met	Glu	Arg	Ser	Ser	Glu
	1880					1885					1890			
Asn	Thr	Tyr	Lys	Ser	Arg	Arg	Arg	Ser	Tyr	His	Ser	Ser	Leu	Arg
	1895					1900					1905			
Leu	Ser	Ala	His	Arg	Leu	Asn	Ser	Asp	Ser	Gly	His	Lys	Ser	Asp
	1910					1915					1920			
Thr	His	Arg	Ser	Gly	Gly	Arg	Glu	Arg	Gly	Arg	Ser	Lys	Glu	Arg
	1925					1930					1935			
Lys	His	Leu	Leu	Ser	Pro	Asp	Val	Ser	Arg	Cys	Asn	Ser	Glu	Glu
	1940					1945					1950			
Arg	Gly	Thr	Gln	Ala	Asp	Trp	Glu	Ser	Pro	Glu	Arg	Arg	Gln	Ser
	1955					1960					1965			
Arg	Ser	Pro	Ser	Glu	Gly	Arg	Ser	Gln	Thr	Pro	Asn	Arg	Gln	Gly
	1970					1975					1980			

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Thr Gly Ser Leu Ser Glu Ser Ser Ile Pro Ser Val Ser Asp Thr
 1985 1990 1995

Ser Thr Pro Arg Arg Ser Arg Arg Gln Leu Pro Pro Val Pro Pro
 2000 2005 2010

Lys Pro Arg Pro Leu Leu Ser Tyr Ser Ser Leu Ile Arg His Ala
 2015 2020 2025

Gly Ser Ile Ser Pro Pro Ala Asp Gly Ser Glu Glu Gly Ser Pro
 2030 2035 2040

Leu Thr Ser Gln Ala Leu Glu Ser Asn Asn Ala Cys Leu Thr Glu
 2045 2050 2055

Ser Ser Asn Ser Pro His Pro Gln Gln Ser Gln His Ala Ser Pro
 2060 2065 2070

Gln Arg Tyr Ile Ser Glu Pro Tyr Leu Ala Leu His Glu Asp Ser
 2075 2080 2085

His Ala Ser Asp Cys Gly Glu Glu Glu Thr Leu Thr Phe Glu Ala
 2090 2095 2100

Ala Val Ala Thr Ser Leu Gly Arg Ser Asn Thr Ile Gly Ser Ala
 2105 2110 2115

Pro Pro Leu Arg His Ser Trp Gln Met Pro Asn Gly His Tyr Arg
 2120 2125 2130

Arg Arg Arg Arg Gly Gly Pro Gly Pro Gly Met Met Cys Gly Ala
 2135 2140 2145

Val Asn Asn Leu Leu Ser Asp Thr Glu Glu Asp Asp Lys Cys
 2150 2155 2160

<210> 14

<211> 2224

<212> PRT

<213> Homo sapiens

<400> 14

Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys Ile Val
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Leu Ala Leu Glu Gln His Leu Pro Glu Asp Asp Lys Thr Pro Met Ser
20 25 30
Arg Arg Leu Glu Lys Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe
35 40 45
Glu Ala Gly Ile Lys Ile Val Ala Leu Gly Phe Ile Phe His Lys Gly
50 55 60
Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Ile Val Val Leu
65 70 75 80
Ser Gly Ile Leu Ala Thr Ala Gly Thr His Phe Asn Thr His Val Asp
85 90 95
Leu Arg Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val
100 105 110
Ser Gly Ile Pro Ser Leu Gln Ile Val Leu Lys Ser Ile Met Lys Ala
115 120 125
Met Val Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu
130 135 140
Met Phe Ala Ile Ile Gly Leu Glu Phe Tyr Ser Gly Lys Leu His Arg
145 150 155 160
Ala Cys Phe Met Asn Asn Ser Gly Ile Leu Glu Gly Phe Asp Pro Pro
165 170 175
His Pro Cys Gly Val Gln Gly Cys Pro Ala Gly Tyr Glu Cys Lys Asp
180 185 190
Trp Ile Gly Pro Asn Asp Gly Ile Thr Gln Phe Asp Asn Ile Leu Phe
195 200 205
Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Thr
210 215 220
Val Leu Tyr Asn Thr Asn Asp Ala Leu Gly Ala Thr Trp Asn Trp Leu
225 230 235 240
Tyr Phe Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Val Leu Asn Leu
245 250 255

Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val
 260 265 270

Glu Asn Arg Arg Ala Phe Met Lys Leu Arg Arg Gln Gln Gln Ile Glu
 275 280 285

Arg Glu Leu Asn Gly Tyr Arg Ala Trp Ile Asp Lys Ala Glu Glu Val
 290 295 300

Met Leu Ala Glu Glu Asn Lys Asn Ala Gly Thr Ser Ala Leu Glu Val
 305 310 315 320

Leu Arg Arg Ala Thr Ile Lys Arg Ser Arg Thr Glu Ala Met Thr Arg
 325 330 335

Asp Ser Ser Asp Glu His Cys Val Asp Ile Ser Ser Val Gly Thr Pro
 340 345 350

Leu Ala Arg Ala Ser Ile Lys Ser Ala Lys Val Asp Gly Val Ser Tyr
 355 360 365

Phe Arg His Lys Glu Arg Leu Leu Arg Ile Ser Ile Arg His Met Val
 370 375 380

Lys Ser Gln Val Phe Tyr Trp Ile Val Leu Ser Leu Val Ala Leu Asn
 385 390 395 400

Thr Ala Cys Val Ala Ile Val His His Asn Gln Pro Gln Trp Leu Thr
 405 410 415

His Leu Leu Tyr Tyr Ala Glu Phe Leu Phe Leu Gly Leu Phe Leu Leu
 420 425 430

Glu Met Ser Leu Lys Met Tyr Gly Met Gly Pro Arg Leu Tyr Phe His
 435 440 445

Ser Ser Phe Asn Cys Phe Asp Phe Gly Val Thr Val Gly Ser Ile Phe
 450 455 460

Glu Val Val Trp Ala Ile Phe Arg Pro Gly Thr Ser Phe Gly Ile Ser
 465 470 475 480

Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr
 485 490 495

Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Met Ser Ser Met Lys
 500 505 510

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Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe
515 520 525

Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Arg Phe Asn Phe Asn Asp
530 535 540

Gly Thr Pro Ser Ala Asn Phe Asp Thr Phe Pro Ala Ala Ile Met Thr
545 550 555 560

Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu Val Met Tyr Asn
565 570 575

Gly Ile Arg Ser Gln Gly Gly Val Ser Ser Gly Met Trp Ser Ala Ile
580 585 590

Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val
595 600 605

Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr
610 615 620

Lys Asp Glu Gln Glu Glu Glu Glu Ala Phe Asn Gln Lys His Ala Leu
625 630 635 640

Gln Lys Ala Lys Glu Val Ser Pro Met Ser Ala Pro Asn Met Pro Ser
645 650 655

Ile Glu Arg Asp Arg Arg Arg Arg His His Met Ser Met Trp Glu Pro
660 665 670

Arg Ser Ser His Leu Arg Glu Arg Arg Arg Arg His His Met Ser Val
675 680 685

Trp Glu Gln Arg Thr Ser Gln Leu Arg Lys His Met Gln Met Ser Ser
690 695 700

Gln Glu Ala Leu Asn Arg Glu Glu Ala Pro Thr Met Asn Pro Leu Asn
705 710 715 720

Pro Leu Asn Pro Leu Ser Ser Leu Asn Pro Leu Asn Ala His Pro Ser
725 730 735

Leu Tyr Arg Arg Pro Arg Ala Ile Glu Gly Leu Ala Leu Gly Leu Ala
740 745 750

Leu Glu Lys Phe Glu Glu Glu Arg Ile Ser Arg Gly Gly Ser Leu Lys
755 760 765

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Gly Asp Gly Gly Asp Arg Ser Ser Ala Leu Asp Asn Gln Arg Thr Pro
 770 775 780
 Leu Ser Leu Gly Gln Arg Glu Pro Pro Trp Leu Ala Arg Pro Cys His
 785 790 795 800
 Gly Asn Cys Asp Pro Thr Gln Gln Glu Ala Gly Gly Gly Glu Ala Val
 805 810 815
 Val Thr Phe Glu Asp Arg Ala Arg His Arg Gln Ser Gln Arg Arg Ser
 820 825 830
 Arg His Arg Arg Val Arg Thr Glu Gly Lys Glu Ser Ser Ser Ala Ser
 835 840 845
 Arg Ser Arg Ser Ala Ser Gln Glu Arg Ser Leu Asp Glu Ala Met Pro
 850 855 860
 Thr Glu Gly Glu Lys Asp His Glu Leu Arg Gly Asn His Gly Ala Lys
 865 870 875 880
 Glu Pro Thr Ile Gln Glu Glu Arg Ala Gln Asp Leu Arg Arg Thr Asn
 885 890 895
 Ser Leu Met Val Ser Arg Gly Ser Gly Leu Ala Gly Gly Leu Asp Glu
 900 905 910
 Ala Asp Thr Pro Leu Val Leu Pro His Pro Glu Leu Glu Val Gly Lys
 915 920 925
 His Val Val Leu Thr Glu Gln Glu Pro Glu Gly Ser Ser Glu Gln Ala
 930 935 940
 Leu Leu Gly Asn Val Gln Leu Asp Met Gly Arg Val Ile Ser Gln Ser
 945 950 955 960
 Glu Pro Asp Leu Ser Cys Ile Thr Ala Asn Thr Asp Lys Ala Thr Thr
 965 970 975
 Glu Ser Thr Ser Val Thr Val Ala Ile Pro Asp Val Asp Pro Leu Val
 980 985 990
 Asp Ser Thr Val Val His Ile Ser Asn Lys Thr Asp Gly Glu Ala Ser
 995 1000 1005
 Pro Leu Lys Glu Ala Glu Ile Arg Glu Asp Glu Glu Glu Val Glu
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1010						1015						
Lys	Lys	Lys	Gln	Lys	Lys	Glu	Lys	Arg	Glu	Thr	Gly	Lys
1025						1030					1035	Ala Met
Val	Pro	His	Ser	Ser	Met	Phe	Ile	Phe	Ser	Thr	Thr	Asn
1040						1045					1050	Pro Ile
Arg	Arg	Ala	Cys	His	Tyr	Ile	Val	Asn	Leu	Arg	Tyr	Phe
1055						1060					1065	Glu Met
Cys	Ile	Leu	Leu	Val	Ile	Ala	Ala	Ser	Ser	Ile	Ala	Leu
1070						1075					1080	Ala Ala
Glu	Asp	Pro	Val	Leu	Thr	Asn	Ser	Glu	Arg	Asn	Lys	Val
1085						1090					1095	Leu Arg
Tyr	Phe	Asp	Tyr	Val	Phe	Thr	Gly	Val	Phe	Thr	Phe	Glu
1100						1105					1110	Met Val
Ile	Lys	Met	Ile	Asp	Gln	Gly	Leu	Ile	Leu	Gln	Asp	Gly
1115						1120					1125	Ser Tyr
Phe	Arg	Asp	Leu	Trp	Asn	Ile	Leu	Asp	Phe	Val	Val	Val
1130						1135					1140	Gly
Ala	Leu	Val	Ala	Phe	Ala	Leu	Ala	Asn	Ala	Leu	Gly	Thr
1145						1150					1155	Asn Lys
Gly	Arg	Asp	Ile	Lys	Thr	Ile	Lys	Ser	Leu	Arg	Val	Leu
1160						1165					1170	Arg Val
Leu	Arg	Pro	Leu	Lys	Thr	Ile	Lys	Arg	Leu	Pro	Lys	Leu
1175						1180					1185	Lys Ala
Val	Phe	Asp	Cys	Val	Val	Thr	Ser	Leu	Lys	Asn	Val	Phe
1190						1195					1200	Asn Ile
Leu	Ile	Val	Tyr	Lys	Leu	Phe	Met	Phe	Ile	Phe	Ala	Val
1205						1210					1215	Ile Ala
Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Tyr	Cys	Thr	Asp
1220						1225					1230	Ser Ser
Lys	Asp	Thr	Glu	Lys	Glu	Cys	Ile	Gly	Asn	Tyr	Val	Asp
1235						1240					1245	His Glu

Lys Asn Lys Met Glu Val Lys Gly Arg Glu Trp Lys Arg His Glu
 1250 1255 1260
 Phe His Tyr Asp Asn Ile Ile Trp Ala Leu Leu Thr Leu Phe Thr
 1265 1270 1275
 Val Ser Thr Gly Glu Gly Trp Pro Gln Val Leu Gln His Ser Val
 1280 1285 1290
 Asp Val Thr Glu Glu Asp Arg Gly Pro Ser Arg Ser Asn Arg Met
 1295 1300 1305
 Glu Met Ser Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe
 1310 1315 1320
 Phe Phe Val Asn Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln
 1325 1330 1335
 Glu Gln Gly Asp Lys Met Met Glu Glu Cys Ser Leu Glu Lys Asn
 1340 1345 1350
 Glu Arg Ala Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr
 1355 1360 1365
 Arg Tyr Met Pro Gln Asn Arg His Thr Phe Gln Tyr Arg Val Trp
 1370 1375 1380
 His Phe Val Val Ser Pro Ser Phe Glu Tyr Thr Ile Met Ala Met
 1385 1390 1395
 Ile Ala Leu Asn Thr Val Val Leu Met Met Lys Tyr Tyr Ser Ala
 1400 1405 1410
 Pro Cys Thr Tyr Glu Leu Ala Leu Lys Tyr Leu Asn Ile Ala Phe
 1415 1420 1425
 Thr Met Val Phe Ser Leu Glu Cys Val Leu Lys Val Ile Ala Phe
 1430 1435 1440
 Gly Phe Leu Asn Tyr Phe Arg Asp Thr Trp Asn Ile Phe Asp Phe
 1445 1450 1455
 Ile Thr Val Ile Gly Ser Ile Thr Glu Ile Ile Leu Thr Asp Ser
 1460 1465 1470
 Lys Leu Val Asn Thr Ser Gly Phe Asn Met Ser Phe Leu Lys Leu
 1475 1480 1485

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Phe	Arg	Ala	Ala	Arg	Leu	Ile	Lys	Leu	Leu	Arg	Gln	Gly	Tyr	Thr
1490						1495					1500			
Ile	Arg	Ile	Leu	Leu	Trp	Thr	Phe	Val	Gln	Ser	Phe	Lys	Ala	Leu
1505						1510					1515			
Pro	Tyr	Val	Cys	Leu	Leu	Ile	Ala	Met	Leu	Phe	Phe	Ile	Tyr	Ala
1520						1525					1530			
Ile	Ile	Gly	Met	Gln	Val	Phe	Gly	Asn	Ile	Lys	Leu	Asp	Glu	Glu
1535						1540					1545			
Ser	His	Ile	Asn	Arg	His	Asn	Asn	Phe	Arg	Ser	Phe	Phe	Gly	Ser
1550						1555					1560			
Leu	Met	Leu	Leu	Phe	Arg	Ser	Ala	Thr	Gly	Glu	Ala	Trp	Gln	Glu
1565						1570					1575			
Ile	Met	Leu	Ser	Cys	Leu	Gly	Glu	Lys	Gly	Cys	Glu	Pro	Asp	Thr
1580						1585					1590			
Thr	Ala	Pro	Ser	Gly	Gln	Asn	Glu	Asn	Glu	Arg	Cys	Gly	Thr	Asp
1595						1600					1605			
Leu	Ala	Tyr	Val	Tyr	Phe	Val	Ser	Phe	Ile	Phe	Phe	Cys	Ser	Phe
1610						1615					1620			
Leu	Met	Leu	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Glu
1625						1630					1635			
Tyr	Leu	Thr	Arg	Asp	Ser	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp
1640						1645					1650			
Glu	Phe	Val	Arg	Val	Trp	Ala	Glu	Tyr	Asp	Arg	Ala	Ala	Cys	Gly
1655						1660					1665			
Arg	Ile	His	Tyr	Thr	Glu	Met	Tyr	Glu	Met	Leu	Thr	Leu	Met	Ser
1670						1675					1680			
Pro	Pro	Leu	Gly	Leu	Gly	Lys	Arg	Cys	Pro	Ser	Lys	Val	Ala	Tyr
1685						1690					1695			
Lys	Arg	Leu	Val	Leu	Met	Asn	Met	Pro	Val	Ala	Glu	Asp	Met	Thr
1700						1705					1710			
Val	His	Phe	Thr	Ser	Thr	Leu	Met	Ala	Leu	Ile	Arg	Thr	Ala	Leu
1715						1720					1725			

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Asp	Ile	Lys	Ile	Ala	Lys	Gly	Gly	Ala	Asp	Arg	Gln	Gln	Leu	Asp
1730						1735					1740			
Ser	Glu	Leu	Gln	Lys	Glu	Thr	Leu	Ala	Ile	Trp	Pro	His	Leu	Ser
1745						1750					1755			
Gln	Lys	Met	Leu	Asp	Leu	Leu	Val	Pro	Met	Pro	Lys	Ala	Ser	Asp
1760						1765					1770			
Leu	Thr	Val	Gly	Lys	Ile	Tyr	Ala	Ala	Met	Met	Ile	Met	Asp	Tyr
1775						1780					1785			
Tyr	Lys	Gln	Ser	Lys	Val	Lys	Lys	Gln	Arg	Gln	Gln	Leu	Glu	Glu
1790						1795					1800			
Gln	Lys	Asn	Ala	Pro	Met	Phe	Gln	Arg	Met	Glu	Pro	Ser	Ser	Leu
1805						1810					1815			
Pro	Gln	Glu	Ile	Ile	Ala	Asn	Ala	Lys	Ala	Leu	Pro	Tyr	Leu	Gln
1820						1825					1830			
Gln	Asp	Pro	Val	Ser	Gly	Leu	Ser	Gly	Arg	Ser	Gly	Tyr	Pro	Ser
1835						1840					1845			
Met	Ser	Pro	Leu	Ser	Pro	Gln	Asp	Ile	Phe	Gln	Leu	Ala	Cys	Met
1850						1855					1860			
Asp	Pro	Ala	Asp	Asp	Gly	Gln	Phe	Gln	Glu	Arg	Gln	Ser	Leu	Glu
1865						1870					1875			
Pro	Glu	Val	Ser	Glu	Leu	Lys	Ser	Val	Gln	Pro	Ser	Asn	His	Gly
1880						1885					1890			
Ile	Tyr	Leu	Pro	Ser	Asp	Thr	Gln	Glu	His	Ala	Gly	Ser	Gly	Arg
1895						1900					1905			
Ala	Ser	Ser	Met	Pro	Arg	Leu	Thr	Val	Asp	Pro	Gln	Val	Val	Thr
1910						1915					1920			
Asp	Pro	Ser	Ser	Met	Arg	Arg	Ser	Phe	Ser	Thr	Ile	Arg	Asp	Lys
1925						1930					1935			
Arg	Ser	Asn	Ser	Ser	Trp	Leu	Glu	Glu	Phe	Ser	Met	Glu	Arg	Ser
1940						1945					1950			
Ser	Glu	Asn	Thr	Tyr	Lys	Ser	Arg	Arg	Arg	Ser	Tyr	His	Ser	Ser

1955	1960	
Leu Arg 1970	Leu Ser Ala His Arg 1975	Leu Asn Ser Asp Ser 1980
Ser Asp 1985	Thr His Arg Ser Gly 1990	Gly Arg Glu Arg Gly 1995
Glu Arg 2000	Lys His Leu Leu Ser 2005	Pro Asp Val Ser Arg 2010
Glu Glu 2015	Arg Gly Thr Gln Ala 2020	Asp Trp Glu Ser Pro 2025
Gln Ser 2030	Arg Ser Pro Ser Gly 2035	Gly Arg Ser Gln Thr 2040
Gln Gly 2045	Thr Gly Ser Leu Ser 2050	Glu Ser Ser Ile Pro 2055
Asp Thr 2060	Ser Thr Pro Arg Arg 2065	Ser Arg Arg Gln Leu 2070
Pro Pro 2075	Lys Pro Arg Pro Leu 2080	Leu Ser Tyr Ser Ser 2085
His Ala 2090	Gly Ser Ile Ser Pro 2095	Pro Ala Asp Gly Ser 2100
Ser Pro 2105	Leu Thr Ser Gln Ala 2110	Leu Glu Ser Asn Asn 2115
Thr Glu 2120	Ser Ser Asn Ser Pro 2125	His Pro Gln Gln Ser 2130
Ser Pro 2135	Gln Arg Tyr Ile Ser 2140	Glu Pro Tyr Leu Ala 2145
Asp Ser 2150	His Ala Ser Asp Cys 2155	Gly Glu Glu Glu Thr 2160
Glu Ala 2165	Ala Val Ala Thr Ser 2170	Leu Gly Arg Ser Asn 2175
Ser Ala 2180	Pro Pro Leu Arg His 2185	Ser Trp Gln Met Pro 2190

Tyr Arg Arg Arg Arg Arg Gly Gly Pro Gly Pro Gly Met Met Cys
2195 2200 2205

Gly Ala Val Asn Asn Leu Leu Ser Asp Thr Glu Glu Asp Asp Lys
2210 2215 2220

Cys

<210> 15

<211> 2377

<212> PRT

<213> Homo sapiens

<400> 15

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Arg Ser Phe Met Arg Leu Asn Asp Leu Ser Gly Ala Gly Gly Arg Pro
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Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
35 40 45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160

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Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
165 170 175

Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
275 280 285

Arg Gly Asp Gly Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 395 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

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Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
 420 425 430
 Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
 435 440 445
 Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
 450 455 460
 Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
 465 470 475 480
 Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
 485 490 495
 His His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
 500 505 510
 Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
 515 520 525
 Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
 530 535 540
 Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
 545 550 555 560
 Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
 565 570 575
 Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
 580 585 590
 Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
 595 600 605
 Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
 610 615 620
 Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
 625 630 635 640
 Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
 645 650 655
 Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
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660

665

670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
785 790 795 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
 915 920 925

Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
 930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
 945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Glu Ile Ser Lys Arg Glu
 965 970 975

Asp Ala Ser Gly Gln Leu Ser Cys Ile Gln Leu Pro Val Asp Ser Gln
 980 985 990

Gly Gly Asp Ala Asn Lys Ser Glu Ser Glu Pro Asp Phe Phe Ser Pro
 995 1000 1005

Ser Leu Asp Gly Asp Gly Asp Arg Lys Lys Cys Leu Ala Leu Val
 1010 1015 1020

Ser Leu Gly Glu His Pro Glu Leu Arg Lys Ser Leu Leu Pro Pro
 1025 1030 1035

Leu Ile Ile His Thr Ala Ala Thr Pro Met Ser Leu Pro Lys Ser
 1040 1045 1050

Thr Ser Thr Gly Leu Gly Glu Ala Leu Gly Pro Ala Ser Arg Arg
 1055 1060 1065

Thr Ser Ser Ser Gly Ser Ala Glu Pro Gly Ala Ala His Glu Met
 1070 1075 1080

Lys Ser Pro Pro Ser Ala Arg Ser Ser Pro His Ser Pro Trp Ser
 1085 1090 1095

Ala Ala Ser Ser Trp Thr Ser Arg Arg Ser Ser Arg Asn Ser Leu
 1100 1105 1110

Gly Arg Ala Pro Ser Leu Lys Arg Arg Ser Pro Ser Gly Glu Arg
 1115 1120 1125

Arg Ser Leu Leu Ser Gly Glu Gly Gln Glu Ser Gln Asp Glu Glu
 1130 1135 1140

Glu Ser Ser Glu Glu Glu Arg Ala Ser Pro Ala Gly Ser Asp His
 1145 1150 1155

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Arg His 1160	Arg Gly Ser Leu	Glu 1165	Arg Glu Ala Lys	Ser 1170	Ser Phe Asp
Leu Pro 1175	Asp Thr Leu Gln	Val 1180	Pro Gly Leu His	Arg 1185	Thr Ala Ser
Gly Arg 1190	Gly Ser Ala Ser	Glu 1195	His Gln Asp Cys	Asn 1200	Gly Lys Ser
Ala Ser 1205	Gly Arg Leu Ala	Arg 1210	Ala Leu Arg Pro	Asp 1215	Asp Pro Pro
Leu Asp 1220	Gly Asp Asp Ala	Asp 1225	Asp Glu Gly Asn	Leu 1230	Ser Lys Gly
Glu Arg 1235	Val Arg Ala Trp	Ile 1240	Arg Ala Arg Leu	Pro 1245	Ala Cys Cys
Leu Glu 1250	Arg Asp Ser Trp	Ser 1255	Ala Tyr Ile Phe	Pro 1260	Pro Gln Ser
Arg Phe 1265	Arg Leu Leu Cys	His 1270	Arg Ile Ile Thr	His 1275	Lys Met Phe
Asp His 1280	Val Val Leu Val	Ile 1285	Ile Phe Leu Asn	Cys 1290	Ile Thr Ile
Ala Met 1295	Glu Arg Pro Lys	Ile 1300	Asp Pro His Ser	Ala 1305	Glu Arg Ile
Phe Leu 1310	Thr Leu Ser Asn	Tyr 1315	Ile Phe Thr Ala	Val 1320	Phe Leu Ala
Glu Met 1325	Thr Val Lys Val	Val 1330	Ala Leu Gly Trp	Cys 1335	Phe Gly Glu
Gln Ala 1340	Tyr Leu Arg Ser	Ser 1345	Trp Asn Val Leu	Asp 1350	Gly Leu Leu
Val Leu 1355	Ile Ser Val Ile	Asp 1360	Ile Leu Val Ser	Met 1365	Val Ser Asp
Ser Gly 1370	Thr Lys Ile Leu	Gly 1375	Met Leu Arg Val	Leu 1380	Arg Leu Leu
Arg Thr 1385	Leu Arg Pro Leu	Arg 1390	Val Ile Ser Arg	Ala 1395	Gln Gly Leu

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Lys	Leu	Val	Val	Glu	Thr	Leu	Met	Ser	Ser	Leu	Lys	Pro	Ile	Gly
	1400					1405					1410			
Asn	Ile	Val	Val	Ile	Cys	Cys	Ala	Phe	Phe	Ile	Ile	Phe	Gly	Ile
	1415					1420					1425			
Leu	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Val	Cys	Gln	Gly
	1430					1435					1440			
Glu	Asp	Thr	Arg	Asn	Ile	Thr	Asn	Lys	Ser	Asp	Cys	Ala	Glu	Ala
	1445					1450					1455			
Ser	Tyr	Arg	Trp	Val	Arg	His	Lys	Tyr	Asn	Phe	Asp	Asn	Leu	Gly
	1460					1465					1470			
Gln	Ala	Leu	Met	Ser	Leu	Phe	Val	Leu	Ala	Ser	Lys	Asp	Gly	Trp
	1475					1480					1485			
Val	Asp	Ile	Met	Tyr	Asp	Gly	Leu	Asp	Ala	Val	Gly	Val	Asp	Gln
	1490					1495					1500			
Gln	Pro	Ile	Met	Asn	His	Asn	Pro	Trp	Met	Leu	Leu	Tyr	Phe	Ile
	1505					1510					1515			
Ser	Phe	Leu	Leu	Ile	Val	Ala	Phe	Phe	Val	Leu	Asn	Met	Phe	Val
	1520					1525					1530			
Gly	Val	Val	Val	Glu	Asn	Phe	His	Lys	Cys	Arg	Gln	His	Gln	Glu
	1535					1540					1545			
Glu	Glu	Glu	Ala	Arg	Arg	Arg	Glu	Glu	Lys	Arg	Leu	Arg	Arg	Leu
	1550					1555					1560			
Glu	Lys	Lys	Arg	Arg	Asn	Leu	Met	Leu	Asp	Asp	Val	Ile	Ala	Ser
	1565					1570					1575			
Gly	Ser	Ser	Ala	Ser	Ala	Ala	Ser	Glu	Ala	Gln	Cys	Lys	Pro	Tyr
	1580					1585					1590			
Tyr	Ser	Asp	Tyr	Ser	Arg	Phe	Arg	Leu	Leu	Val	His	His	Leu	Cys
	1595					1600					1605			
Thr	Ser	His	Tyr	Leu	Asp	Leu	Phe	Ile	Thr	Gly	Val	Ile	Gly	Leu
	1610					1615					1620			
Asn	Val	Val	Thr	Met	Ala	Met	Glu	His	Tyr	Gln	Gln	Pro	Gln	Ile

1625

1630

Leu	Asp	Glu	Ala	Leu	Lys	Ile	Cys	Asn	Tyr	Ile	Phe	Thr	Val	Ile
1640						1645					1650			
Phe	Val	Leu	Glu	Ser	Val	Phe	Lys	Leu	Val	Ala	Phe	Gly	Phe	Arg
1655						1660					1665			
Arg	Phe	Phe	Gln	Asp	Arg	Trp	Asn	Gln	Leu	Asp	Leu	Ala	Ile	Val
1670						1675					1680			
Leu	Leu	Ser	Ile	Met	Gly	Ile	Thr	Leu	Glu	Glu	Ile	Glu	Val	Asn
1685						1690					1695			
Ala	Ser	Leu	Pro	Ile	Asn	Pro	Thr	Ile	Ile	Arg	Ile	Met	Arg	Val
1700						1705					1710			
Leu	Arg	Ile	Ala	Arg	Val	Leu	Lys	Leu	Leu	Lys	Met	Ala	Val	Gly
1715						1720					1725			
Met	Arg	Ala	Leu	Leu	Asp	Thr	Val	Met	Gln	Ala	Leu	Pro	Gln	Val
1730						1735					1740			
Gly	Asn	Leu	Gly	Leu	Leu	Phe	Met	Leu	Leu	Phe	Phe	Ile	Phe	Ala
1745						1750					1755			
Ala	Leu	Gly	Val	Glu	Leu	Phe	Gly	Asp	Leu	Glu	Cys	Asp	Glu	Thr
1760						1765					1770			
His	Pro	Cys	Glu	Gly	Leu	Gly	Arg	His	Ala	Thr	Phe	Arg	Asn	Phe
1775						1780					1785			
Gly	Met	Ala	Phe	Leu	Thr	Leu	Phe	Arg	Val	Ser	Thr	Gly	Asp	Asn
1790						1795					1800			
Trp	Asn	Gly	Ile	Met	Lys	Asp	Thr	Leu	Arg	Asp	Cys	Asp	Gln	Glu
1805						1810					1815			
Ser	Thr	Cys	Tyr	Asn	Thr	Val	Ile	Ser	Pro	Ile	Tyr	Phe	Val	Ser
1820						1825					1830			
Phe	Val	Leu	Thr	Ala	Gln	Phe	Val	Leu	Val	Asn	Val	Val	Ile	Ala
1835						1840					1845			
Val	Leu	Met	Lys	His	Leu	Glu	Glu	Ser	Asn	Lys	Glu	Ala	Lys	Glu
1850						1855					1860			

Glu Ala 1865 Glu Leu Glu Ala Glu 1870 Leu Glu Leu Glu Met 1875 Lys Thr Leu
 Ser Pro 1880 Gln Pro His Ser Pro 1885 Leu Gly Ser Pro Phe 1890 Leu Trp Pro
 Gly Val 1895 Glu Gly Pro Asp Ser 1900 Pro Asp Ser Pro Lys 1905 Pro Gly Ala
 Leu His 1910 Pro Ala Ala His Ala 1915 Arg Ser Ala Ser His 1920 Phe Ser Leu
 Glu His 1925 Pro Thr Asp Arg Gln 1930 Leu Phe Asp Thr Ile 1935 Ser Leu Leu
 Ile Gln 1940 Gly Ser Leu Glu Trp 1945 Glu Leu Lys Leu Met 1950 Asp Glu Leu
 Ala Gly 1955 Pro Gly Gly Gln Pro 1960 Ser Ala Phe Pro Ser 1965 Ala Pro Ser
 Leu Gly 1970 Gly Ser Asp Pro Gln 1975 Ile Pro Leu Ala Glu 1980 Met Glu Ala
 Leu Ser 1985 Leu Thr Ser Glu Ile 1990 Val Ser Glu Pro Ser 1995 Cys Ser Leu
 Ala Leu 2000 Thr Asp Asp Ser Leu 2005 Pro Asp Asp Met His 2010 Thr Leu Leu
 Leu Ser 2015 Ala Leu Glu Ser Asn 2020 Met Gln Pro His Pro 2025 Thr Glu Leu
 Pro Gly 2030 Pro Asp Leu Leu Thr 2035 Val Arg Lys Ser Gly 2040 Val Ser Arg
 Thr His 2045 Ser Leu Pro Asn Asp 2050 Ser Tyr Met Cys Arg 2055 His Gly Ser
 Thr Ala 2060 Glu Gly Pro Leu Gly 2065 His Arg Gly Trp Gly 2070 Leu Pro Lys
 Ala Gln 2075 Ser Gly Ser Val Leu 2080 Ser Val His Ser Gln 2085 Pro Ala Asp
 Thr Ser 2090 Tyr Ile Leu Gln Leu 2095 Pro Lys Asp Ala Pro 2100 His Leu Leu

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Gln	Pro	His	Ser	Ala	Pro	Thr	Trp	Gly	Thr	Ile	Pro	Lys	Leu	Pro
2105						2110					2115			
Pro	Pro	Gly	Arg	Ser	Pro	Leu	Ala	Gln	Arg	Pro	Leu	Arg	Arg	Gln
2120						2125					2130			
Ala	Ala	Ile	Arg	Thr	Asp	Ser	Leu	Asp	Val	Gln	Gly	Leu	Gly	Ser
2135						2140					2145			
Arg	Glu	Asp	Leu	Leu	Ala	Glu	Val	Ser	Gly	Pro	Ser	Pro	Pro	Leu
2150						2155					2160			
Ala	Arg	Ala	Tyr	Ser	Phe	Trp	Gly	Gln	Ser	Ser	Thr	Gln	Ala	Gln
2165						2170					2175			
Gln	His	Ser	Arg	Ser	His	Ser	Lys	Ile	Ser	Lys	His	Met	Thr	Pro
2180						2185					2190			
Pro	Ala	Pro	Cys	Pro	Gly	Pro	Glu	Pro	Asn	Trp	Gly	Lys	Gly	Pro
2195						2200					2205			
Pro	Glu	Thr	Arg	Ser	Ser	Leu	Glu	Leu	Asp	Thr	Glu	Leu	Ser	Trp
2210						2215					2220			
Ile	Ser	Gly	Asp	Leu	Leu	Pro	Pro	Gly	Gly	Gln	Glu	Glu	Pro	Pro
2225						2230					2235			
Ser	Pro	Arg	Asp	Leu	Lys	Lys	Cys	Tyr	Ser	Val	Glu	Ala	Gln	Ser
2240						2245					2250			
Cys	Gln	Arg	Arg	Pro	Thr	Ser	Trp	Leu	Asp	Glu	Gln	Arg	Arg	His
2255						2260					2265			
Ser	Ile	Ala	Val	Ser	Cys	Leu	Asp	Ser	Gly	Ser	Gln	Pro	His	Leu
2270						2275					2280			
Gly	Thr	Asp	Pro	Ser	Asn	Leu	Gly	Gly	Gln	Pro	Leu	Gly	Gly	Pro
2285						2290					2295			
Gly	Ser	Arg	Pro	Lys	Lys	Lys	Leu	Ser	Pro	Pro	Ser	Ile	Thr	Ile
2300						2305					2310			
Asp	Pro	Pro	Glu	Ser	Gln	Gly	Pro	Arg	Thr	Pro	Pro	Ser	Pro	Gly
2315						2320					2325			
Ile	Cys	Leu	Arg	Arg	Arg	Ala	Pro	Ser	Ser	Asp	Ser	Lys	Asp	Pro
2330						2335					2340			

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Leu Ala Ser Gly Pro Pro Asp Ser Met Ala Ala Ser Pro Ser Pro
2345 2350 2355

Lys Lys Asp Val Leu Ser Leu Ser Gly Leu Ser Ser Asp Pro Ala
2360 2365 2370

Asp Leu Asp Pro
2375

<210> 16

<211> 2250

<212> PRT

<213> Homo sapiens

<400> 16

Met Asp Glu Glu Glu Asp Gly Ala Gly Ala Glu Glu Ser Gly Gln Pro
1 5 10 15

Arg Ser Phe Met Arg Leu Asn Asp Leu Ser Gly Ala Gly Gly Arg Pro
20 25 30

Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
35 40 45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
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145		150		155		160
Ile	Ala	Gly	Met	Leu	Glu	Tyr
			165			
				Asp	Leu	Gln
				170		
					Asn	Val
					175	
Ser	Ala	Val	Arg	Thr	Val	Arg
			180			
				Val	Leu	Arg
				185		
					Pro	Leu
					Arg	Ala
					190	
						Ile
						Asn
Arg	Val	Pro	Ser	Met	Arg	Ile
		195				
				Leu	Val	Thr
				200		
					Leu	Leu
					205	
						Leu
						Asp
						Thr
						Leu
Pro	Met	Leu	Gly	Asn	Val	Leu
	210					215
						Leu
						Leu
						Cys
						Phe
						220
						Val
						Phe
						Phe
						Ile
Phe	Gly	Ile	Val	Gly	Val	Gln
225				230		
						Leu
						Trp
						Ala
						Gly
						235
						Leu
						Leu
						Arg
						Asn
						Arg
						240
Cys	Phe	Leu	Pro	Glu	Asn	Phe
				245		
						Ser
						Leu
						Pro
						250
						Leu
						Ser
						Val
						Asp
						Leu
						Glu
						255
Arg	Tyr	Tyr	Gln	Thr	Glu	Asn
			260			
						Glu
						Asp
						265
						Glu
						Ser
						Pro
						Phe
						Ile
						270
						Cys
						Ser
Gln	Pro	Arg	Glu	Asn	Gly	Met
		275				
						Arg
						280
						Ser
						Cys
						Arg
						Ser
						Val
						285
						Pro
						Thr
						Leu
Arg	Gly	Asp	Gly	Gly	Gly	Gly
	290					295
						Pro
						Pro
						Cys
						Gly
						Leu
						300
						Asp
						Tyr
						Glu
						Ala
Tyr	Asn	Ser	Ser	Ser	Asn	Thr
305					310	
						Thr
						Cys
						Val
						Asn
						315
						Trp
						Asn
						Gln
						Tyr
						Tyr
						320
Thr	Asn	Cys	Ser	Ala	Gly	Glu
				325		
						His
						Asn
						Pro
						330
						Phe
						Lys
						Gly
						Ala
						Ile
						335
Phe	Asp	Asn	Ile	Gly	Tyr	Ala
			340			
						Trp
						Ile
						Ala
						Ile
						Phe
						Gln
						Val
						350
						Ile
						Thr
Leu	Glu	Gly	Trp	Val	Asp	Ile
		355				
						Met
						360
						Tyr
						Phe
						Val
						Met
						Asp
						365
						Ala
						His
						Ser
Phe	Tyr	Asn	Phe	Ile	Tyr	Phe
	370					375
						Ile
						Leu
						Leu
						Ile
						Ile
						380
						Val
						Gly
						Ser
						Phe
Phe	Met	Ile	Asn	Leu	Cys	Leu
385					390	
						Val
						Val
						Ile
						Ala
						395
						Thr
						Gln
						Phe
						Ser
						Glu
						400

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Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
420 425 430

Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435 440 445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450 455 460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465 470 475 480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485 490 495

His His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500 505 510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515 520 525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530 535 540

Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
545 550 555 560

Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565 570 575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580 585 590

Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595 600 605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610 615 620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625 630 635 640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645 650 655

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Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660 665 670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
785 790 795 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

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Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
915 920 925

Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn Lys Ser
965 970 975

Glu Ser Glu Pro Asp Phe Phe Ser Pro Ser Leu Asp Gly Asp Gly Asp
980 985 990

Arg Lys Lys Cys Leu Ala Leu Val Ser Leu Gly Glu His Pro Glu Leu
995 1000 1005

Arg Lys Ser Leu Leu Pro Pro Leu Ile Ile His Thr Ala Ala Thr
1010 1015 1020

Pro Met Ser Leu Pro Lys Ser Thr Ser Thr Gly Leu Gly Glu Ala
1025 1030 1035

Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser Gly Ser Ala Glu
1040 1045 1050

Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser Ala Arg Ser
1055 1060 1065

Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr Ser Arg
1070 1075 1080

Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg
1085 1090 1095

Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly
1100 1105 1110

Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala
1115 1120 1125

Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg
1130 1135 1140

Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln Val Pro
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1145

1150

Gly	Leu	His	Arg	Thr	Ala	Ser	Gly	Arg	Gly	Ser	Ala	Ser	Glu	His
	1160					1165					1170			
Gln	Asp	Cys	Asn	Gly	Lys	Ser	Ala	Ser	Gly	Arg	Leu	Ala	Arg	Ala
	1175					1180					1185			
Leu	Arg	Pro	Asp	Asp	Pro	Pro	Leu	Asp	Gly	Asp	Asp	Ala	Asp	Asp
	1190					1195					1200			
Glu	Gly	Asn	Leu	Ser	Lys	Gly	Glu	Arg	Val	Arg	Ala	Trp	Ile	Arg
	1205					1210					1215			
Ala	Arg	Leu	Pro	Ala	Cys	Cys	Leu	Glu	Arg	Asp	Ser	Trp	Ser	Ala
	1220					1225					1230			
Tyr	Ile	Phe	Pro	Pro	Gln	Ser	Arg	Phe	Arg	Leu	Leu	Cys	His	Arg
	1235					1240					1245			
Ile	Ile	Thr	His	Lys	Met	Phe	Asp	His	Val	Val	Leu	Val	Ile	Ile
	1250					1255					1260			
Phe	Leu	Asn	Cys	Ile	Thr	Ile	Ala	Met	Glu	Arg	Pro	Lys	Ile	Asp
	1265					1270					1275			
Pro	His	Ser	Ala	Glu	Arg	Ile	Phe	Leu	Thr	Leu	Ser	Asn	Tyr	Ile
	1280					1285					1290			
Phe	Thr	Ala	Val	Phe	Leu	Ala	Glu	Met	Thr	Val	Lys	Val	Val	Ala
	1295					1300					1305			
Leu	Gly	Trp	Cys	Phe	Gly	Glu	Gln	Ala	Tyr	Leu	Arg	Ser	Ser	Trp
	1310					1315					1320			
Asn	Val	Leu	Asp	Gly	Leu	Leu	Val	Leu	Ile	Ser	Val	Ile	Asp	Ile
	1325					1330					1335			
Leu	Val	Ser	Met	Val	Ser	Asp	Ser	Gly	Thr	Lys	Ile	Leu	Gly	Met
	1340					1345					1350			
Leu	Arg	Val	Leu	Arg	Leu	Leu	Arg	Thr	Leu	Arg	Pro	Leu	Arg	Val
	1355					1360					1365			
Ile	Ser	Arg	Ala	Gln	Gly	Leu	Lys	Leu	Val	Val	Glu	Thr	Leu	Met
	1370					1375					1380			

Ser Ser Leu Lys Pro Ile Gly Asn Ile Val Val Ile Cys Cys Ala
 1385 1390 1395
 Phe Phe Ile Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly
 1400 1405 1410
 Lys Phe Phe Val Cys Gln Gly Glu Asp Thr Arg Asn Ile Thr Asn
 1415 1420 1425
 Lys Ser Asp Cys Ala Glu Ala Ser Tyr Arg Trp Val Arg His Lys
 1430 1435 1440
 Tyr Asn Phe Asp Asn Leu Gly Gln Ala Leu Met Ser Leu Phe Val
 1445 1450 1455
 Leu Ala Ser Lys Asp Gly Trp Val Asp Ile Met Tyr Asp Gly Leu
 1460 1465 1470
 Asp Ala Val Gly Val Asp Gln Gln Pro Ile Met Asn His Asn Pro
 1475 1480 1485
 Trp Met Leu Leu Tyr Phe Ile Ser Phe Leu Leu Ile Val Ala Phe
 1490 1495 1500
 Phe Val Leu Asn Met Phe Val Gly Val Val Val Glu Asn Phe His
 1505 1510 1515
 Lys Cys Arg Gln His Gln Glu Glu Glu Glu Ala Arg Arg Arg Glu
 1520 1525 1530
 Glu Lys Arg Leu Arg Arg Leu Glu Lys Lys Arg Arg Ser Lys Glu
 1535 1540 1545
 Lys Gln Met Ala Glu Ala Gln Cys Lys Pro Tyr Tyr Ser Asp Tyr
 1550 1555 1560
 Ser Arg Phe Arg Leu Leu Val His His Leu Cys Thr Ser His Tyr
 1565 1570 1575
 Leu Asp Leu Phe Ile Thr Gly Val Ile Gly Leu Asn Val Val Thr
 1580 1585 1590
 Met Ala Met Glu His Tyr Gln Gln Pro Gln Ile Leu Asp Glu Ala
 1595 1600 1605
 Leu Lys Ile Cys Asn Tyr Ile Phe Thr Val Ile Phe Val Leu Glu
 1610 1615 1620

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Ser Val 1625	Phe Lys Leu Val	Ala 1630	Phe Gly Phe Arg	Arg 1635	Phe Phe Gln
Asp Arg 1640	Trp Asn Gln Leu	Asp 1645	Leu Ala Ile Val	Leu 1650	Leu Ser Ile
Met Gly 1655	Ile Thr Leu Glu	Glu 1660	Ile Glu Val Asn	Ala 1665	Ser Leu Pro
Ile Asn 1670	Pro Thr Ile Ile	Arg 1675	Ile Met Arg Val	Leu 1680	Arg Ile Ala
Arg Val 1685	Leu Lys Leu Leu	Lys 1690	Met Ala Val Gly	Met 1695	Arg Ala Leu
Leu Asp 1700	Thr Val Met Gln	Ala 1705	Leu Pro Gln Val	Gly 1710	Asn Leu Gly
Leu Leu 1715	Phe Met Leu Leu	Phe 1720	Phe Ile Phe Ala	Ala 1725	Leu Gly Val
Glu Leu 1730	Phe Gly Asp Leu	Glu 1735	Cys Asp Glu Thr	His 1740	Pro Cys Glu
Gly Leu 1745	Gly Arg His Ala	Thr 1750	Phe Arg Asn Phe	Gly 1755	Met Ala Phe
Leu Thr 1760	Leu Phe Arg Val	Ser 1765	Thr Gly Asp Asn	Trp 1770	Asn Gly Ile
Met Lys 1775	Asp Thr Leu Arg	Asp 1780	Cys Asp Gln Glu	Ser 1785	Thr Cys Tyr
Asn Thr 1790	Val Ile Ser Pro	Ile 1795	Tyr Phe Val Ser	Phe 1800	Val Leu Thr
Ala Gln 1805	Phe Val Leu Val	Asn 1810	Val Val Ile Ala	Val 1815	Leu Met Lys
His Leu 1820	Glu Glu Ser Asn	Lys 1825	Glu Ala Lys Glu	Glu 1830	Ala Glu Leu
Glu Ala 1835	Glu Leu Glu Leu	Glu 1840	Met Lys Thr Leu	Ser 1845	Pro Gln Pro
His Ser 1850	Pro Leu Gly Ser	Pro 1855	Phe Leu Trp Pro	Gly 1860	Val Glu Gly

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Pro Asp Ser Pro Asp Ser Pro Lys Pro Gly Ala Leu His Pro Ala
1865 1870 1875

Ala His Ala Arg Ser Ala Ser His Phe Ser Leu Glu His Pro Thr
1880 1885 1890

Met Gln Pro His Pro Thr Glu Leu Pro Gly Pro Asp Leu Leu Thr
1895 1900 1905

Val Arg Lys Ser Gly Val Ser Arg Thr His Ser Leu Pro Asn Asp
1910 1915 1920

Ser Tyr Met Cys Arg His Gly Ser Thr Ala Glu Gly Pro Leu Gly
1925 1930 1935

His Arg Gly Trp Gly Leu Pro Lys Ala Gln Ser Gly Ser Val Leu
1940 1945 1950

Ser Val His Ser Gln Pro Ala Asp Thr Ser Tyr Ile Leu Gln Leu
1955 1960 1965

Pro Lys Asp Ala Pro His Leu Leu Gln Pro His Ser Ala Pro Thr
1970 1975 1980

Trp Gly Thr Ile Pro Lys Leu Pro Pro Pro Gly Arg Ser Pro Leu
1985 1990 1995

Ala Gln Arg Pro Leu Arg Arg Gln Ala Ala Ile Arg Thr Asp Ser
2000 2005 2010

Leu Asp Val Gln Gly Leu Gly Ser Arg Glu Asp Leu Leu Ala Glu
2015 2020 2025

Val Ser Gly Pro Ser Pro Pro Leu Ala Arg Ala Tyr Ser Phe Trp
2030 2035 2040

Gly Gln Ser Ser Thr Gln Ala Gln Gln His Ser Arg Ser His Ser
2045 2050 2055

Lys Ile Ser Lys His Met Thr Pro Pro Ala Pro Cys Pro Gly Pro
2060 2065 2070

Glu Pro Asn Trp Gly Lys Gly Pro Pro Glu Thr Arg Ser Ser Leu
2075 2080 2085

Glu Leu Asp Thr Glu Leu Ser Trp Ile Ser Gly Asp Leu Leu Pro

2090

2095

Pro Gly Gly Gln Glu Glu Pro Pro Ser Pro Arg Asp Leu Lys Lys
2105 2110 2115

Cys Tyr Ser Val Glu Ala Gln Ser Cys Gln Arg Arg Pro Thr Ser
2120 2125 2130

Trp Leu Asp Glu Gln Arg Arg His Ser Ile Ala Val Ser Cys Leu
2135 2140 2145

Asp Ser Gly Ser Gln Pro His Leu Gly Thr Asp Pro Ser Asn Leu
2150 2155 2160

Gly Gly Gln Pro Leu Gly Gly Pro Gly Ser Arg Pro Lys Lys Lys
2165 2170 2175

Leu Ser Pro Pro Ser Ile Thr Ile Asp Pro Pro Glu Ser Gln Gly
2180 2185 2190

Pro Arg Thr Pro Pro Ser Pro Gly Ile Cys Leu Arg Arg Arg Ala
2195 2200 2205

Pro Ser Ser Asp Ser Lys Asp Pro Leu Ala Ser Gly Pro Pro Asp
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<212> PRT

<213> Homo sapiens

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Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
 35 40 45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
 50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
 65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
 85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
 100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
 115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
 130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
 145 150 155 160

Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
 165 170 175

Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
 180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
 195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
 210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
 225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
 245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
 260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
 275 280 285

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Arg Gly Asp Gly Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 395 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
420 425 430

Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435 440 445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450 455 460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465 470 475 480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485 490 495

His His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500 505 510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515 520 525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530 535 540

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Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
545 550 555 560

Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565 570 575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580 585 590

Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595 600 605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610 615 620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625 630 635 640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645 650 655

Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660 665 670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
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785 790 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
915 920 925

Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn Lys Ser
965 970 975

Glu Ser Glu Pro Asp Phe Phe Ser Pro Ser Leu Asp Gly Asp Gly Asp
980 985 990

Arg Lys Lys Cys Leu Ala Leu Val Ser Leu Gly Glu His Pro Glu Leu
995 1000 1005

Arg Lys Ser Leu Leu Pro Pro Leu Ile Ile His Thr Ala Ala Thr
1010 1015 1020

Pro Met Ser Leu Pro Lys Ser Thr Ser Thr Gly Leu Gly Glu Ala
1025 1030 1035

Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser Gly Ser Ala Glu
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 Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser Ala Arg Ser
 1055 1060 1065
 Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr Ser Arg
 1070 1075 1080
 Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg
 1085 1090 1095
 Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly
 1100 1105 1110
 Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala
 1115 1120 1125
 Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg
 1130 1135 1140
 Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln Val Pro
 1145 1150 1155
 Gly Leu His Arg Thr Ala Ser Gly Arg Gly Ser Ala Ser Glu His
 1160 1165 1170
 Gln Asp Cys Asn Gly Lys Ser Ala Ser Gly Arg Leu Ala Arg Ala
 1175 1180 1185
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 1190 1195 1200
 Glu Gly Asn Leu Ser Lys Gly Glu Arg Val Arg Ala Trp Ile Arg
 1205 1210 1215
 Ala Arg Leu Pro Ala Cys Cys Leu Glu Arg Asp Ser Trp Ser Ala
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 Tyr Ile Phe Pro Pro Gln Ser Arg Phe Arg Leu Leu Cys His Arg
 1235 1240 1245
 Ile Ile Thr His Lys Met Phe Asp His Val Val Leu Val Ile Ile
 1250 1255 1260
 Phe Leu Asn Cys Ile Thr Ile Ala Met Glu Arg Pro Lys Ile Asp
 1265 1270 1275

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Pro	His	Ser	Ala	Glu	Arg	Ile	Phe	Leu	Thr	Leu	Ser	Asn	Tyr	Ile
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Leu	Gly	Trp	Cys	Phe	Gly	Glu	Gln	Ala	Tyr	Leu	Arg	Ser	Ser	Trp
	1310					1315					1320			
Asn	Val	Leu	Asp	Gly	Leu	Leu	Val	Leu	Ile	Ser	Val	Ile	Asp	Ile
	1325					1330					1335			
Leu	Val	Ser	Met	Val	Ser	Asp	Ser	Gly	Thr	Lys	Ile	Leu	Gly	Met
	1340					1345					1350			
Leu	Arg	Val	Leu	Arg	Leu	Leu	Arg	Thr	Leu	Arg	Pro	Leu	Arg	Val
	1355					1360					1365			
Ile	Ser	Arg	Ala	Gln	Gly	Leu	Lys	Leu	Val	Val	Glu	Thr	Leu	Met
	1370					1375					1380			
Ser	Ser	Leu	Lys	Pro	Ile	Gly	Asn	Ile	Val	Val	Ile	Cys	Cys	Ala
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Phe	Phe	Ile	Ile	Phe	Gly	Ile	Leu	Gly	Val	Gln	Leu	Phe	Lys	Gly
	1400					1405					1410			
Lys	Phe	Phe	Val	Cys	Gln	Gly	Glu	Asp	Thr	Arg	Asn	Ile	Thr	Asn
	1415					1420					1425			
Lys	Ser	Asp	Cys	Ala	Glu	Ala	Ser	Tyr	Arg	Trp	Val	Arg	His	Lys
	1430					1435					1440			
Tyr	Asn	Phe	Asp	Asn	Leu	Gly	Gln	Ala	Leu	Met	Ser	Leu	Phe	Val
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Leu	Ala	Ser	Lys	Asp	Gly	Trp	Val	Asp	Ile	Met	Tyr	Asp	Gly	Leu
	1460					1465					1470			
Asp	Ala	Val	Gly	Val	Asp	Gln	Gln	Pro	Ile	Met	Asn	His	Asn	Pro
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Trp	Met	Leu	Leu	Tyr	Phe	Ile	Ser	Phe	Leu	Leu	Ile	Val	Ala	Phe
	1490					1495					1500			
Phe	Val	Leu	Asn	Met	Phe	Val	Gly	Val	Val	Val	Glu	Asn	Phe	His
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Lys	Cys	Arg	Gln	His	Gln	Glu	Glu	Glu	Glu	Ala	Arg	Arg	Arg	Glu
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Glu	Lys	Arg	Leu	Arg	Arg	Leu	Glu	Lys	Lys	Arg	Arg	Lys	Ala	Gln
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Cys	Lys	Pro	Tyr	Tyr	Ser	Asp	Tyr	Ser	Arg	Phe	Arg	Leu	Leu	Val
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His	His	Leu	Cys	Thr	Ser	His	Tyr	Leu	Asp	Leu	Phe	Ile	Thr	Gly
	1565					1570					1575			
Val	Ile	Gly	Leu	Asn	Val	Val	Thr	Met	Ala	Met	Glu	His	Tyr	Gln
	1580					1585					1590			
Gln	Pro	Gln	Ile	Leu	Asp	Glu	Ala	Leu	Lys	Ile	Cys	Asn	Tyr	Ile
	1595					1600					1605			
Phe	Thr	Val	Ile	Phe	Val	Leu	Glu	Ser	Val	Phe	Lys	Leu	Val	Ala
	1610					1615					1620			
Phe	Gly	Phe	Arg	Arg	Phe	Phe	Gln	Asp	Arg	Trp	Asn	Gln	Leu	Asp
	1625					1630					1635			
Leu	Ala	Ile	Val	Leu	Leu	Ser	Ile	Met	Gly	Ile	Thr	Leu	Glu	Glu
	1640					1645					1650			
Ile	Glu	Val	Asn	Ala	Ser	Leu	Pro	Ile	Asn	Pro	Thr	Ile	Ile	Arg
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Ile	Met	Arg	Val	Leu	Arg	Ile	Ala	Arg	Val	Leu	Lys	Leu	Leu	Lys
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	1715					1720					1725			
Cys	Asp	Glu	Thr	His	Pro	Cys	Glu	Gly	Leu	Gly	Arg	His	Ala	Thr
	1730					1735					1740			
Phe	Arg	Asn	Phe	Gly	Met	Ala	Phe	Leu	Thr	Leu	Phe	Arg	Val	Ser

1745

1750

Thr	Gly	Asp	Asn	Trp	Asn	Gly	Ile	Met	Lys	Asp	Thr	Leu	Arg	Asp
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Cys	Asp	Gln	Glu	Ser	Thr	Cys	Tyr	Asn	Thr	Val	Ile	Ser	Pro	Ile
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Tyr	Phe	Val	Ser	Phe	Val	Leu	Thr	Ala	Gln	Phe	Val	Leu	Val	Asn
	1790					1795					1800			
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Phe	Leu	Trp	Pro	Gly	Val	Glu	Gly	Pro	Asp	Ser	Pro	Asp	Ser	Pro
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Lys	Pro	Gly	Ala	Leu	His	Pro	Ala	Ala	His	Ala	Arg	Ser	Ala	Ser
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His	Phe	Ser	Leu	Glu	His	Pro	Thr	Met	Gln	Pro	His	Pro	Thr	Glu
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Leu	Pro	Gly	Pro	Asp	Leu	Leu	Thr	Val	Arg	Lys	Ser	Gly	Val	Ser
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Arg	Thr	His	Ser	Leu	Pro	Asn	Asp	Ser	Tyr	Met	Cys	Arg	His	Gly
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Asp	Thr	Ser	Tyr	Ile	Leu	Gln	Leu	Pro	Lys	Asp	Ala	Pro	His	Leu
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Leu	Gln	Pro	His	Ser	Ala	Pro	Thr	Trp	Gly	Thr	Ile	Pro	Lys	Leu
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Ser	Arg	Glu	Asp	Leu	Leu	Ala	Glu	Val	Ser	Gly	Pro	Ser	Pro	Pro
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Leu	Ala	Arg	Ala	Tyr	Ser	Phe	Trp	Gly	Gln	Ser	Ser	Thr	Gln	Ala
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	2045					2050					2055			
Pro	Pro	Ala	Pro	Cys	Pro	Gly	Pro	Glu	Pro	Asn	Trp	Gly	Lys	Gly
	2060					2065					2070			
Pro	Pro	Glu	Thr	Arg	Ser	Ser	Leu	Glu	Leu	Asp	Thr	Glu	Leu	Ser
	2075					2080					2085			
Trp	Ile	Ser	Gly	Asp	Leu	Leu	Pro	Pro	Gly	Gly	Gln	Glu	Glu	Pro
	2090					2095					2100			
Pro	Ser	Pro	Arg	Asp	Leu	Lys	Lys	Cys	Tyr	Ser	Val	Glu	Ala	Gln
	2105					2110					2115			
Ser	Cys	Gln	Arg	Arg	Pro	Thr	Ser	Trp	Leu	Asp	Glu	Gln	Arg	Arg
	2120					2125					2130			
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Leu	Gly	Thr	Asp	Pro	Ser	Asn	Leu	Gly	Gly	Gln	Pro	Leu	Gly	Gly
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Pro	Gly	Ser	Arg	Pro	Lys	Lys	Lys	Leu	Ser	Pro	Pro	Ser	Ile	Thr
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Gly	Ile	Cys	Leu	Arg	Arg	Arg	Ala	Pro	Ser	Ser	Asp	Ser	Lys	Asp
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Pro	Leu	Ala	Ser	Gly	Pro	Pro	Asp	Ser	Met	Ala	Ala	Ser	Pro	Ser
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Pro Lys Lys Asp Val Leu Ser Leu Ser Gly Leu Ser Ser Asp Pro
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Ala Asp Leu Asp Pro
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<210> 18

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<213> Homo sapiens

<400> 18

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Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
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Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
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Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160

Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
165 170 175

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Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
275 280 285

Arg Gly Asp Gly Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
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Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435440445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450455460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465470475480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485490495

His His His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500505510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515520525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530535540

Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
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Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565570575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580585590

Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595600605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610615620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625630635640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645650655

Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660665670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
785 790 795 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
915 920 925

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Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn Lys Ser
965 970 975

Glu Ser Glu Pro Asp Phe Phe Ser Pro Ser Leu Asp Gly Asp Gly Asp
980 985 990

Arg Lys Lys Cys Leu Ala Leu Val Ser Leu Gly Glu His Pro Glu Leu
995 1000 1005

Arg Lys Ser Leu Leu Pro Pro Leu Ile Ile His Thr Ala Ala Thr
1010 1015 1020

Pro Met Ser Leu Pro Lys Ser Thr Ser Thr Gly Leu Gly Glu Ala
1025 1030 1035

Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser Gly Ser Ala Glu
1040 1045 1050

Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser Ala Arg Ser
1055 1060 1065

Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr Ser Arg
1070 1075 1080

Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg
1085 1090 1095

Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly
1100 1105 1110

Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala
1115 1120 1125

Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg
1130 1135 1140

Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln Val Pro
1145 1150 1155

Gly Leu His Arg Thr Ala Ser Gly Arg Gly Ser Ala Ser Glu His
1160 1165 1170

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Gln Asp Cys Asn Gly Lys Ser Ala Ser Gly Arg Leu Ala Arg Ala
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Leu Arg Pro Asp Asp Pro Pro Leu Asp Gly Asp Asp Ala Asp Asp
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Glu Gly Asn Leu
1205

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<211> 2353

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<213> Homo sapiens

<400> 19

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Ala Pro Pro Pro Gly Pro Ala Ala Leu Val Gly Ala Ser Pro Glu Ser
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Pro Gly Ala Pro Gly Arg Glu Ala Glu Arg Gly Ser Glu Leu Gly Val
35 40 45

Ser Pro Ser Glu Ser Pro Ala Ala Glu Arg Gly Ala Glu Leu Gly Ala
50 55 60

Asp Glu Glu Gln Arg Val Pro Tyr Pro Ala Leu Ala Ala Thr Val Phe
65 70 75 80

Phe Cys Leu Gly Gln Thr Thr Arg Pro Arg Ser Trp Cys Leu Arg Leu
85 90 95

Val Cys Asn Pro Trp Phe Glu His Val Ser Met Leu Val Ile Met Leu
100 105 110

Asn Cys Val Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Val Glu Cys
115 120 125

Gly Ser Glu Arg Cys Asn Ile Leu Glu Ala Phe Asp Ala Phe Ile Phe
130 135 140

Ala Phe Phe Ala Val Glu Met Val Ile Lys Met Val Ala Leu Gly Leu
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145		150		155		160									
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Val	Ser	Leu	Ser	Ala	Ile	Arg	Thr	Val	Arg	Val	Leu	Arg	Pro	Leu	Arg
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Ala	Ile	Asn	Arg	Val	Pro	Ser	Met	Arg	Ile	Leu	Val	Thr	Leu	Leu	Leu
	210					215					220				
Asp	Thr	Leu	Pro	Met	Leu	Gly	Asn	Val	Leu	Leu	Leu	Cys	Phe	Phe	Val
225					230				235						240
Phe	Phe	Ile	Phe	Gly	Ile	Val	Gly	Val	Gln	Leu	Trp	Ala	Gly	Leu	Leu
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Arg	Asn	Arg	Cys	Phe	Leu	Asp	Ser	Ala	Phe	Val	Arg	Asn	Asn	Asn	Leu
			260					265					270		
Thr	Phe	Leu	Arg	Pro	Tyr	Tyr	Gln	Thr	Glu	Glu	Gly	Glu	Glu	Asn	Pro
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Ile	Pro	Gly	Arg	Arg	Glu	Leu	Arg	Met	Pro	Cys	Thr	Leu	Gly	Trp	Glu
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Ala	Tyr	Thr	Gln	Pro	Gln	Ala	Glu	Gly	Val	Gly	Ala	Ala	Arg	Asn	Ala
				325					330					335	
Cys	Ile	Asn	Trp	Asn	Gln	Tyr	Tyr	Asn	Val	Cys	Arg	Ser	Gly	Asp	Ser
			340					345					350		
Asn	Pro	His	Asn	Gly	Ala	Ile	Asn	Phe	Asp	Asn	Ile	Gly	Tyr	Ala	Trp
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Ile	Ala	Ile	Phe	Gln	Val	Ile	Thr	Leu	Glu	Gly	Trp	Val	Asp	Ile	Met
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Tyr	Tyr	Val	Met	Asp	Ala	His	Ser	Phe	Tyr	Asn	Phe	Ile	Tyr	Phe	Ile
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Leu Leu Ile Ile Val Gly Ser Phe Phe Met Ile Asn Leu Cys Leu Val
 405 410 415
 Val Ile Ala Thr Gln Phe Ser Glu Thr Lys Gln Arg Glu Ser Gln Leu
 420 425 430
 Met Arg Glu Gln Arg Ala Arg His Leu Ser Asn Asp Ser Thr Leu Ala
 435 440 445
 Ser Phe Ser Glu Pro Gly Ser Cys Tyr Glu Glu Leu Leu Lys Tyr Val
 450 455 460
 Gly His Ile Phe Arg Lys Val Lys Arg Arg Ser Leu Arg Leu Tyr Ala
 465 470 475 480
 Arg Trp Gln Ser Arg Trp Arg Lys Lys Val Asp Pro Ser Ala Val Gln
 485 490 495
 Gly Gln Gly Pro Gly His Arg Gln Arg Arg Ala Gly Arg His Thr Ala
 500 505 510
 Ser Val His His Leu Val Tyr His His His His His His His His His
 515 520 525
 Tyr His Phe Ser His Gly Ser Pro Arg Arg Pro Gly Pro Glu Pro Gly
 530 535 540
 Ala Cys Asp Thr Arg Leu Val Arg Ala Gly Ala Pro Pro Ser Pro Pro
 545 550 555 560
 Ser Pro Gly Arg Gly Pro Pro Asp Ala Glu Ser Val His Ser Ile Tyr
 565 570 575
 His Ala Asp Cys His Ile Glu Gly Pro Gln Glu Arg Ala Arg Val Ala
 580 585 590
 His Ala Ala Ala Thr Ala Ala Ala Ser Leu Arg Leu Ala Thr Gly Leu
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 Gly Thr Met Asn Tyr Pro Thr Ile Leu Pro Ser Gly Val Gly Ser Gly
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 Lys Gly Ser Thr Ser Pro Gly Pro Lys Gly Lys Trp Ala Gly Gly Pro
 625 630 635 640
 Pro Gly Thr Gly Gly His Gly Pro Leu Ser Leu Asn Ser Pro Asp Pro
 645 650 655

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Tyr Glu Lys Ile Pro His Val Val Gly Glu His Gly Leu Gly Gln Ala
 660 665 670
 Pro Gly His Leu Ser Gly Leu Ser Val Pro Cys Pro Leu Pro Ser Pro
 675 680 685
 Pro Ala Gly Thr Leu Thr Cys Glu Leu Lys Ser Cys Pro Tyr Cys Thr
 690 695 700
 Arg Ala Leu Glu Asp Pro Glu Gly Glu Leu Ser Gly Ser Glu Ser Gly
 705 710 715 720
 Asp Ser Asp Gly Arg Gly Val Tyr Glu Phe Thr Gln Asp Val Arg His
 725 730 735
 Gly Asp Arg Trp Asp Pro Thr Arg Pro Pro Arg Ala Thr Asp Thr Pro
 740 745 750
 Gly Pro Gly Pro Gly Ser Pro Gln Arg Arg Ala Gln Gln Arg Ala Ala
 755 760 765
 Pro Gly Glu Pro Gly Trp Met Gly Arg Leu Trp Val Thr Phe Ser Gly
 770 775 780
 Lys Leu Arg Arg Ile Val Asp Ser Lys Tyr Phe Ser Arg Gly Ile Met
 785 790 795 800
 Met Ala Ile Leu Val Asn Thr Leu Ser Met Gly Val Glu Tyr His Glu
 805 810 815
 Gln Pro Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe
 820 825 830
 Thr Ser Met Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Ala Cys Gly
 835 840 845
 Pro Leu Gly Tyr Ile Arg Asn Pro Tyr Asn Ile Phe Asp Gly Ile Ile
 850 855 860
 Val Val Ile Ser Val Trp Glu Ile Val Gly Gln Ala Asp Gly Gly Leu
 865 870 875 880
 Ser Val Leu Arg Thr Phe Arg Leu Leu Arg Val Leu Lys Leu Val Arg
 885 890 895
 Phe Leu Pro Ala Leu Arg Arg Gln Leu Val Val Leu Val Lys Thr Met
 900 905 910

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Asp Asn Val Ala Thr Phe Cys Thr Leu Leu Met Leu Phe Ile Phe Ile
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 Phe Ser Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ser Leu Lys
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 Thr Asp Thr Gly Asp Thr Val Pro Asp Arg Lys Asn Phe Asp Ser Leu
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 980 985 990
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 995 1000 1005
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 Lys Met Cys Ser Leu Ala Val Thr Pro Asn Gly His Leu Glu Gly
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 1070 1075 1080
 Pro Met Pro Thr Pro Lys Ser Ser Pro Phe Leu Asp Ala Ala Pro
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 Ser Leu Pro Asp Ser Arg Arg Gly Ser Ser Ser Ser Gly Asp Pro
 1100 1105 1110
 Pro Leu Gly Asp Gln Lys Pro Pro Ala Ser Leu Arg Ser Ser Pro
 1115 1120 1125
 Cys Ala Pro Trp Gly Pro Ser Gly Ala Trp Ser Ser Arg Arg Ser
 1130 1135 1140
 Ser Trp Ser Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg Arg Gly
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1155

Gln	Cys	Gly	Glu	Arg	Glu	Ser	Leu	Leu	Ser	Gly	Glu	Gly	Lys	Gly
1160	1165	1170												
Ser	Thr	Asp	Asp	Glu	Ala	Glu	Asp	Gly	Arg	Ala	Ala	Pro	Gly	Pro
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Arg	Ala	Thr	Pro	Leu	Arg	Arg	Ala	Glu	Ser	Leu	Asp	Pro	Arg	Pro
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Leu	Arg	Pro	Ala	Ala	Leu	Pro	Pro	Thr	Lys	Cys	Arg	Asp	Arg	Asp
1210	1215					1220								
Gly	Gln	Val	Val	Ala	Leu	Pro	Ser	Asp	Phe	Phe	Leu	Arg	Ile	Asp
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Ser	His	Arg	Glu	Asp	Ala	Ala	Glu	Leu	Asp	Asp	Asp	Ser	Glu	Asp
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Ser	Cys	Cys	Leu	Arg	Leu	His	Lys	Val	Leu	Glu	Pro	Tyr	Lys	Pro
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Gln	Trp	Cys	Arg	Ser	Arg	Glu	Ala	Trp	Ala	Leu	Tyr	Leu	Phe	Ser
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Pro	Gln	Asn	Arg	Phe	Arg	Val	Ser	Cys	Gln	Lys	Val	Ile	Thr	His
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Lys	Met	Phe	Asp	His	Val	Val	Leu	Val	Phe	Ile	Phe	Leu	Asn	Cys
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Val	Thr	Ile	Ala	Leu	Glu	Arg	Pro	Asp	Ile	Asp	Pro	Gly	Ser	Thr
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Glu	Arg	Val	Phe	Leu	Ser	Val	Ser	Asn	Tyr	Ile	Phe	Thr	Ala	Ile
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Phe	Val	Ala	Glu	Met	Met	Val	Lys	Val	Val	Ala	Leu	Gly	Leu	Leu
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Ser	Gly	Glu	His	Ala	Tyr	Leu	Gln	Ser	Ser	Trp	Asn	Leu	Leu	Asp
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Gly	Leu	Leu	Val	Leu	Val	Ser	Leu	Val	Asp	Ile	Val	Val	Ala	Met
1375	1380					1385								

Ala	Ser	Ala	Gly	Gly	Ala	Lys	Ile	Leu	Gly	Val	Leu	Arg	Val	Leu
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Arg	Leu	Leu	Arg	Thr	Leu	Arg	Pro	Leu	Arg	Val	Ile	Ser	Arg	Ala
1400						1405					1410			
Pro	Gly	Leu	Lys	Leu	Val	Val	Glu	Thr	Leu	Ile	Ser	Ser	Leu	Arg
1415						1420					1425			
Pro	Ile	Gly	Asn	Ile	Val	Leu	Ile	Cys	Cys	Ala	Phe	Phe	Ile	Ile
1430						1435					1440			
Phe	Gly	Ile	Leu	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Tyr	Tyr
1445						1450					1455			
Cys	Glu	Gly	Pro	Asp	Thr	Arg	Asn	Ile	Ser	Thr	Lys	Ala	Gln	Cys
1460						1465					1470			
Arg	Ala	Ala	His	Tyr	Arg	Trp	Val	Arg	Arg	Lys	Tyr	Asn	Phe	Asp
1475						1480					1485			
Asn	Leu	Gly	Gln	Ala	Leu	Met	Ser	Leu	Phe	Val	Leu	Ser	Ser	Lys
1490						1495					1500			
Asp	Gly	Trp	Val	Asn	Ile	Met	Tyr	Asp	Gly	Leu	Asp	Ala	Val	Gly
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Tyr	Phe	Ile	Ser	Phe	Leu	Leu	Ile	Val	Ser	Phe	Phe	Val	Leu	Asn
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Ala	Gln	Arg	Arg	Pro	Tyr	Tyr	Ala	Asp	Tyr	Ser	Pro	Thr	Arg	Arg
1595						1600					1605			
Ser	Ile	His	Ser	Leu	Cys	Thr	Ser	His	Tyr	Leu	Asp	Leu	Phe	Ile
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Thr	Phe	Ile	Ile	Cys	Val	Asn	Val	Ile	Thr	Met	Ser	Met	Glu	His
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Tyr	Val	Phe	Thr	Ile	Val	Phe	Val	Phe	Glu	Ala	Ala	Leu	Lys	Leu
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Gln	Ala	Leu	Pro	Gln	Val	Gly	Asn	Leu	Gly	Leu	Leu	Phe	Met	Leu
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Leu	Phe	Phe	Ile	Tyr	Ala	Ala	Leu	Gly	Val	Glu	Leu	Phe	Gly	Arg
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Ala	Thr	Phe	Ser	Asn	Phe	Gly	Met	Ala	Phe	Leu	Thr	Leu	Phe	Arg
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Val	Ser	Thr	Gly	Asp	Asn	Trp	Asn	Gly	Ile	Met	Lys	Asp	Thr	Leu
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Arg	Glu	Cys	Ser	Arg	Glu	Asp	Lys	His	Cys	Leu	Ser	Tyr	Leu	Pro
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Ala	Leu	Ser	Pro	Val	Tyr	Phe	Val	Thr	Phe	Val	Leu	Val	Ala	Gln
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Phe	Val	Leu	Val	Asn	Val	Val	Val	Ala	Val	Leu	Met	Lys	His	Leu
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Val	Asp	Ala	Asp	Arg	Pro	Pro	Leu	Pro	Gln	Glu	Ser	Pro	Gly	Ala
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Met	Leu	Ser	Leu	Pro	Asn	Asp	Ser	Tyr	Met	Phe	Arg	Pro	Val	Val
	1925					1930					1935			
Pro	Ala	Ser	Ala	Pro	His	Pro	Arg	Pro	Leu	Gln	Glu	Val	Glu	Met
	1940					1945					1950			
Glu	Thr	Tyr	Gly	Ala	Gly	Thr	Pro	Leu	Gly	Ser	Val	Ala	Ser	Val
	1955					1960					1965			
His	Ser	Pro	Pro	Ala	Glu	Ser	Cys	Ala	Ser	Leu	Gln	Ile	Pro	Leu
	1970					1975					1980			
Ala	Val	Ser	Ser	Pro	Ala	Arg	Ser	Gly	Glu	Pro	Leu	His	Ala	Leu
	1985					1990					1995			
Ser	Pro	Arg	Gly	Thr	Ala	Arg	Ser	Pro	Ser	Leu	Ser	Arg	Leu	Leu
	2000					2005					2010			
Cys	Arg	Gln	Glu	Ala	Val	His	Thr	Asp	Ser	Leu	Glu	Gly	Lys	Ile
	2015					2020					2025			
Asp	Ser	Pro	Arg	Asp	Thr	Leu	Asp	Pro	Ala	Glu	Pro	Gly	Glu	Lys
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Thr	Pro	Val	Arg	Pro	Val	Thr	Gln	Gly	Gly	Ser	Leu	Gln	Ser	Pro
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Pro	Arg	Ser	Pro	Arg	Pro	Ala	Ser	Val	Arg	Thr	Arg	Lys	His	Thr
	2060					2065					2070			
Phe	Gly	Gln	Arg	Cys	Val	Ser	Ser	Arg	Pro	Ala	Ala	Pro	Gly	Gly
	2075					2080					2085			
Glu	Glu	Ala	Glu	Ala	Ser	Asp	Pro	Ala	Asp	Glu	Glu	Val	Ser	His

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Ile Thr Ser Ser Ala Cys Pro Trp Gln Pro Thr Ala Glu Pro His	2105	2110	2115
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Arg Leu Tyr Ser Val Asp Ala Gln Gly Phe Leu Asp Lys Pro Gly	2135	2140	2145
Arg Ala Asp Glu Gln Trp Arg Pro Ser Ala Glu Leu Gly Ser Gly	2150	2155	2160
Glu Pro Gly Glu Ala Lys Ala Trp Gly Pro Glu Ala Glu Pro Ala	2165	2170	2175
Leu Gly Ala Arg Arg Lys Lys Lys Met Ser Pro Pro Cys Ile Ser	2180	2185	2190
Val Glu Pro Pro Ala Glu Asp Glu Gly Ser Ala Arg Pro Ser Ala	2195	2200	2205
Ala Glu Gly Gly Ser Thr Thr Leu Arg Arg Arg Thr Pro Ser Cys	2210	2215	2220
Glu Ala Thr Pro His Arg Asp Ser Leu Glu Pro Thr Glu Gly Ser	2225	2230	2235
Gly Ala Gly Gly Asp Pro Ala Ala Lys Gly Glu Arg Trp Gly Gln	2240	2245	2250
Ala Ser Cys Arg Ala Glu His Leu Thr Val Pro Ser Phe Ala Phe	2255	2260	2265
Glu Pro Leu Asp Leu Gly Val Pro Ser Gly Asp Pro Phe Leu Asp	2270	2275	2280
Gly Ser His Ser Val Thr Pro Glu Ser Arg Ala Ser Ser Ser Gly	2285	2290	2295
Ala Ile Val Pro Leu Glu Pro Pro Glu Ser Glu Pro Pro Met Pro	2300	2305	2310
Val Gly Asp Pro Pro Glu Lys Arg Arg Gly Leu Tyr Leu Thr Val	2315	2320	2325

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Ala Pro Gly Gly Gly Ala Asp Asp Pro Val
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<211> 1536

<212> PRT

<213> Homo sapiens

<400> 20

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Leu Gly Tyr Ile Arg Asn Pro Tyr Asn Ile Phe Asp Gly Ile Ile Val
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Val Ile Ser Val Trp Glu Ile Val Gly Gln Ala Asp Gly Gly Leu Ser
50 55 60

Val Leu Arg Thr Phe Arg Leu Leu Arg Val Leu Lys Leu Val Arg Phe
65 70 75 80

Leu Pro Ala Leu Arg Arg Gln Leu Val Val Leu Val Lys Thr Met Asp
85 90 95

Asn Val Ala Thr Phe Cys Thr Leu Leu Met Leu Phe Ile Phe Ile Phe
100 105 110

Ser Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ser Leu Lys Thr
115 120 125

Asp Thr Gly Asp Thr Val Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu
130 135 140

Trp Ala Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn
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Val Val Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu
165 170 175

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Tyr Phe Val Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu
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 Phe His Lys Leu Arg Glu Leu Gln Thr Thr Glu Leu Lys Met Cys Ser
 225 230 235 240
 Leu Ala Val Thr Pro Asn Gly His Leu Glu Gly Arg Gly Ser Leu Ser
 245 250 255
 Pro Pro Leu Ile Met Cys Thr Ala Ala Thr Pro Met Pro Thr Pro Lys
 260 265 270
 Ser Ser Pro Phe Leu Asp Ala Ala Pro Ser Leu Pro Asp Ser Arg Arg
 275 280 285
 Gly Ser Ser Ser Ser Gly Asp Pro Pro Leu Gly Asp Gln Lys Pro Pro
 290 295 300
 Ala Ser Leu Arg Ser Ser Pro Cys Ala Pro Trp Gly Pro Ser Gly Ala
 305 310 315 320
 Trp Ser Ser Arg Arg Ser Ser Trp Ser Ser Leu Gly Arg Ala Pro Ser
 325 330 335
 Leu Lys Arg Arg Gly Gln Cys Gly Glu Arg Glu Ser Leu Leu Ser Gly
 340 345 350
 Glu Gly Lys Gly Ser Thr Asp Asp Glu Ala Glu Asp Gly Arg Ala Ala
 355 360 365
 Pro Gly Pro Arg Ala Thr Pro Leu Arg Arg Ala Glu Ser Leu Asp Pro
 370 375 380
 Arg Pro Leu Arg Pro Ala Ala Leu Pro Pro Thr Lys Cys Arg Asp Arg
 385 390 395 400
 Asp Gly Gln Val Val Ala Leu Pro Ser Asp Phe Phe Leu Arg Ile Asp
 405 410 415
 Ser His Arg Glu Asp Ala Ala Glu Leu Asp Asp Asp Ser Glu Asp Ser
 420 425 430

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Cys Cys Leu Arg Leu His Lys Val Leu Glu Pro Tyr Lys Pro Gln Trp
435 440 445

Cys Arg Ser Arg Glu Ala Trp Ala Leu Tyr Leu Phe Ser Pro Gln Asn
450 455 460

Arg Phe Arg Val Ser Cys Gln Lys Val Ile Thr His Lys Met Phe Asp
465 470 475 480

His Val Val Leu Val Phe Ile Phe Leu Asn Cys Val Thr Ile Ala Leu
485 490 495

Glu Arg Pro Asp Ile Asp Pro Gly Ser Thr Glu Arg Val Phe Leu Ser
500 505 510

Val Ser Asn Tyr Ile Phe Thr Ala Ile Phe Val Ala Glu Met Met Val
515 520 525

Lys Val Val Ala Leu Gly Leu Leu Ser Gly Glu His Ala Tyr Leu Gln
530 535 540

Ser Ser Trp Asn Leu Leu Asp Gly Leu Leu Val Leu Val Ser Leu Val
545 550 555 560

Asp Ile Val Val Ala Met Ala Ser Ala Gly Gly Ala Lys Ile Leu Gly
565 570 575

Val Leu Arg Val Leu Arg Leu Leu Arg Thr Leu Arg Pro Leu Arg Val
580 585 590

Ile Ser Arg Ala Pro Gly Leu Lys Leu Val Val Glu Thr Leu Ile Ser
595 600 605

Ser Leu Arg Pro Ile Gly Asn Ile Val Leu Ile Cys Cys Ala Phe Phe
610 615 620

Ile Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly Lys Phe Tyr
625 630 635 640

Tyr Cys Glu Gly Pro Asp Thr Arg Asn Ile Ser Thr Lys Ala Gln Cys
645 650 655

Arg Ala Ala His Tyr Arg Trp Val Arg Arg Lys Tyr Asn Phe Asp Asn
660 665 670

Leu Gly Gln Ala Leu Met Ser Leu Phe Val Leu Ser Ser Lys Asp Gly
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675 680 685
 Trp Val Asn Ile Met Tyr Asp Gly Leu Asp Ala Val Gly Val Asp Gln
 690 695 700
 Gln Pro Val Gln Asn His Asn Pro Trp Met Leu Leu Tyr Phe Ile Ser
 705 710 715 720
 Phe Leu Leu Ile Val Ser Phe Phe Val Leu Asn Met Phe Val Gly Val
 725 730 735
 Val Val Glu Asn Phe His Lys Cys Arg Gln His Gln Glu Ala Glu Glu
 740 745 750
 Ala Arg Arg Arg Glu Glu Lys Arg Leu Arg Arg Leu Glu Arg Arg Arg
 755 760 765
 Arg Ser Thr Phe Pro Ser Pro Glu Ala Gln Arg Arg Pro Tyr Tyr Ala
 770 775 780
 Asp Tyr Ser Pro Thr Arg Arg Ser Ile His Ser Leu Cys Thr Ser His
 785 790 795 800
 Tyr Leu Asp Leu Phe Ile Thr Phe Ile Ile Cys Val Asn Val Ile Thr
 805 810
 Met Ser Met Glu His Tyr Asn Gln Pro Lys Ser Leu Asp Glu Ala Leu
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 Lys Tyr Cys Asn Tyr Val Phe Thr Ile Val Phe Val Phe Glu Ala Ala
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 Leu Lys Leu Val Ala Phe Gly Phe Arg Arg Phe Phe Lys Asp Arg Trp
 850 855 860
 Asn Gln Leu Asp Leu Ala Ile Val Leu Leu Ser Leu Met Gly Ile Thr
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 Leu Glu Glu Ile Glu Met Ser Ala Ala Leu Pro Ile Asn Pro Thr Ile
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Leu Pro Gln Val Gly Asn Leu Gly Leu Leu Phe Met Leu Leu Phe Phe
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Ile Tyr Ala Ala Leu Gly Val Glu Leu Phe Gly Arg Leu Glu Cys Ser
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Glu Asp Asn Pro Cys Glu Gly Leu Ser Arg His Ala Thr Phe Ser Asn
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Phe Gly Met Ala Phe Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn
 980 985 990

Trp Asn Gly Ile Met Lys Asp Thr Leu Arg Glu Cys Ser Arg Glu Asp
 995 1000 1005

Lys His Cys Leu Ser Tyr Leu Pro Ala Leu Ser Pro Val Tyr Phe
 1010 1015 1020

Val Thr Phe Val Leu Val Ala Gln Phe Val Leu Val Asn Val Val
 1025 1030 1035

Val Ala Val Leu Met Lys His Leu Glu Glu Ser Asn Lys Glu Ala
 1040 1045 1050

Arg Glu Asp Ala Glu Leu Asp Ala Glu Ile Glu Leu Glu Met Ala
 1055 1060 1065

Gln Gly Pro Gly Ser Ala Arg Arg Val Asp Ala Asp Arg Pro Pro
 1070 1075 1080

Leu Pro Gln Glu Ser Pro Gly Ala Arg Asp Ala Pro Asn Leu Val
 1085 1090 1095

Ala Arg Lys Val Ser Val Ser Arg Met Leu Ser Leu Pro Asn Asp
 1100 1105 1110

Ser Tyr Met Phe Arg Pro Val Val Pro Ala Ser Ala Pro His Pro
 1115 1120 1125

Arg Pro Leu Gln Glu Val Glu Met Glu Thr Tyr Gly Ala Gly Thr
 1130 1135 1140

Pro Leu Gly Ser Val Ala Ser Val His Ser Pro Pro Ala Glu Ser
 1145 1150 1155

Cys Ala Ser Leu Gln Ile Pro Leu Ala Val Ser Ser Pro Ala Arg
 1160 1165 1170

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Ser	Gly	Glu	Pro	Leu	His	Ala	Leu	Ser	Pro	Arg	Gly	Thr	Ala	Arg
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Ser	Pro	Ser	Leu	Ser	Arg	Leu	Leu	Cys	Arg	Gln	Glu	Ala	Val	His
	1190					1195					1200			
Thr	Asp	Ser	Leu	Glu	Gly	Lys	Ile	Asp	Ser	Pro	Arg	Asp	Thr	Leu
	1205					1210					1215			
Asp	Pro	Ala	Glu	Pro	Gly	Glu	Lys	Thr	Pro	Val	Arg	Pro	Val	Thr
	1220					1225					1230			
Gln	Gly	Gly	Ser	Leu	Gln	Ser	Pro	Pro	Arg	Ser	Pro	Arg	Pro	Ala
	1235					1240					1245			
Ser	Val	Arg	Thr	Arg	Lys	His	Thr	Phe	Gly	Gln	His	Cys	Val	Ser
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Ser	Arg	Pro	Ala	Ala	Pro	Gly	Gly	Glu	Glu	Ala	Glu	Ala	Ser	Asp
	1265					1270					1275			
Pro	Ala	Asp	Glu	Glu	Val	Ser	His	Ile	Thr	Ser	Ser	Ala	Cys	Pro
	1280					1285					1290			
Trp	Gln	Pro	Thr	Ala	Glu	Pro	His	Gly	Pro	Glu	Ala	Ser	Pro	Val
	1295					1300					1305			
Ala	Gly	Gly	Glu	Arg	Asp	Leu	Arg	Arg	Leu	Tyr	Ser	Val	Asp	Ala
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Gln	Gly	Phe	Leu	Asp	Lys	Pro	Gly	Arg	Ala	Asp	Glu	Gln	Trp	Arg
	1325					1330					1335			
Pro	Ser	Ala	Glu	Leu	Gly	Ser	Gly	Glu	Pro	Gly	Glu	Ala	Lys	Ala
	1340					1345					1350			
Trp	Gly	Pro	Glu	Ala	Glu	Pro	Ala	Leu	Gly	Ala	Arg	Arg	Lys	Lys
	1355					1360					1365			
Lys	Met	Ser	Pro	Pro	Cys	Ile	Ser	Val	Glu	Pro	Pro	Ala	Glu	Asp
	1370					1375					1380			
Glu	Gly	Ser	Ala	Arg	Pro	Ser	Ala	Ala	Glu	Gly	Gly	Ser	Thr	Thr
	1385					1390					1395			
Leu	Arg	Arg	Arg	Thr	Pro	Ser	Cys	Glu	Ala	Thr	Pro	His	Arg	Asp
	1400					1405					1410			

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Ser Leu Glu Pro Thr Glu Gly Ser Gly Ala Gly Gly Asp Pro Ala
1415 1420 1425

Ala Lys Gly Glu Arg Trp Gly Gln Ala Ser Cys Arg Ala Glu His
1430 1435 1440

Leu Thr Val Pro Ser Phe Ala Phe Glu Pro Leu Asp Leu Gly Val
1445 1450 1455

Pro Ser Gly Asp Pro Phe Leu Asp Gly Ser His Ser Val Thr Pro
1460 1465 1470

Glu Ser Arg Ala Ser Ser Ser Gly Ala Ile Val Pro Leu Glu Pro
1475 1480 1485

Pro Glu Ser Glu Pro Pro Met Pro Val Gly Asp Pro Pro Glu Lys
1490 1495 1500

Arg Arg Gly Leu Tyr Leu Thr Val Pro Gln Cys Pro Leu Glu Lys
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Pro Gly Ser Pro Ser Ala Thr Pro Ala Pro Gly Gly Gly Ala Asp
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Asp Pro Val
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Thr Gly Ser Cys Arg Ser Gly Lys Cys
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<213> Agelenopsis aperta

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Tyr Leu Lys Ser Gly Cys Lys Cys Val Val Gly Thr Ser Ala Glu Phe
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Gln Gly Ile Cys Arg Arg Lys Ala Arg Gln Cys Tyr Asn Ser Asp Pro
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<211> 41

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<213> Hysterocrates gigas

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Gly Val Asp Lys Ala Gly Cys Arg Tyr Met Phe Gly Gly Cys Ser Val
 1 5 10 15

Asn Asp Asp Cys Cys Pro Arg Leu Gly Cys His Ser Leu Phe Ser Tyr
 20 25 30

Cys Ala Trp Asp Leu Thr Phe Ser Asp
 35 40